PHP

Sommario

- Introduzione
- Elaborazione di stringhe e Espressioni regolari
- Variabili di ambiente Client/Server
- Elaborazione Form
- Verifica di Username e Password
- Connessione a Database
- Cookies
- Contenuti dinamici
- Precedenza operatori
- Web Resources

Obiettivi

- Gestire i tipi di dati, gli operatori, gli array e le strutture di controllo di PHP
- Capire l'elaborazione di stringhe e le espressioni regolari
- Costruire programmi per elaborare dati
- Essere in grado di leggere/scrivere dati client mediante cookie
- Costruire programmi per interagire con database MySQL

Introduzione (1)

- Il nome originale deriva da "Personal Home Page tools"
- La comunità di sviluppatori PHP ha poi modificato il nome in modo ricorsivo
  - PHP: Hypertext Preprocessor
- È Open-source
  - Chiunque può leggere, studiare, modificare e redistribuire il codice sorgente
  - È continuamente evoluto dalla comunità PHP

Introduzione (2)

- È una tecnologia per la programmazione di script sul lato server
- È indipendente dalla piattaforma

Generalità (1)

- Elementi di base
  - Delimitatori di script
    - Ogni script inizia con <? php
    - Ogni script finisce con ?>
    - Devono racchiudere tutto il codice di script
  - Le variabili sono precedute dal simbolo $
    - Case-sensitive
  - Il simbolo di fine istruzione è il punto e virgola
    ;

Generalità (2)

- Commenti
  - Se il commento è su un'unica riga il simbolo di inizio commento è //
    - Non c'è alcun simbolo di fine commento
  - Se il commento è su più righe
    - Inizio commento /*
    - Fine commento */
- Per convenzione i file hanno estensione .php


```
1  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
2     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
3
4  <!-- Fig. 26.1: first.php -->
5  <!-- Our first PHP script -->
6
7  <?php
8     $name = "Tomatic";   // declaration
9  ?>
10
11 <html xmlns = "http://www.w3.org/1999/xhtml">
12    <head>
13       <title>A simple PHP document</title
14    </head>
15
16    <body style = "font-size: 2em">
17       <p>
18          <strong>
19
20             <!-- print variable name's value -->
21             Welcome to PHP, <?php print( "$name" ); ?>!
22          </strong>
23       </p>
24    </body>
25 </html>
```

Scripting delimiters

Declare variable $name

Single-line comment

Function print outputs the value of variable $name

Esecuzione

Variabili (1)

- PHP è un liguaggio debolmente tipizzato
  - Una variabile può essere di tipo diverso in momenti diversi
  - Nomi di variabili all'interno di stringhe sono sostituiti dal loro valore
- Conversioni di tipo
  - settype function
  - type casting
- Operatore di concatenazione tra stringhe
  - punto .

Variabili (2)

Data type	Description
`int, integer`	Whole numbers (i.e., numbers without a decimal point).
`float, double`	Real numbers (i.e., numbers containing a decimal point).
`string`	Text enclosed in either single (`''`) or double (`""`) quotes.
`bool, Boolean`	True or false.
`array`	Group of elements of the same type.
`object`	Group of associated data and methods.
`Resource`	An external data source.
`NULL`	No value.

Fig. 26.2 PHP data types.


```
1  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
2     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
3
4  <!-- Fig. 26.3: data.php            -->
5  <!-- Demonstration of PHP data types -->
6
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>PHP data types</title>
10    </head>
11
12    <body>
13
14       <?php
15
16          // declare a string, double and integer
17          $testString = "3.5 seconds";
18          $testDouble = 79.2;
19          $testInteger = 12;
20       ?>
21
```

Assign a string to variable `$testString`

Assign a double to variable `$testDouble`

Assign an integer to variable `$testInteger`

```
22      <!-- print each variable's value -->
23      <?php print( $testString ); ?> is a string.<br />
24      <?php print( $testDouble ); ?> is a double.<br />
25      <?php print( $testInteger ); ?> is an integer.<br />
26
27      <br />
28      Now, converting to other types:<br />
29      <?php
30
31         // call function settype to convert variable
32         // testString to different data types
33         print( "$testString" );
34         settype( $testString, "double" );
35         print( " as a double is $testString <br />" );
36         print( "$testString" );
37         settype( $testString, "integer" );
38         print( " as an integer is $testString <br />" );
39         settype( $testString, "string" );
40         print( "Converting back to a string results in
41            $testString <br /><br />" );
42
43         $data = "98.6 degrees";
```

Print each variable's value

Call function settype to convert the data type of variable $testString to a double.

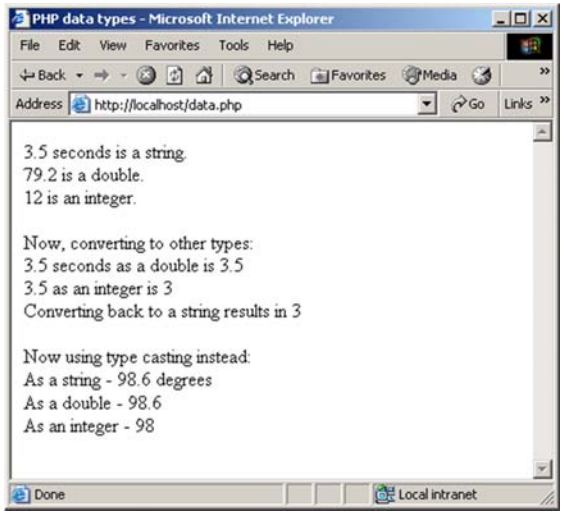
Call function settype to convert the data type of variable $testString to an integer.

Convert variable $testString back to a string


```
44
45         // use type casting to cast variables to a
46         // different type
47         print( "Now using type casting instead: <br />
48            As a string - " . (string) $data .
49            "<br />As a double - " . (double) $data .
50            "<br />As an integer - " . (integer) $data );
51      ?>
52   </body>
53 </html>
```

Use type casting to cast variable $data to different types

Esecuzione



Operatori aritmetici

- Operatori di assegnamento
  - Prima del primo assegnamento, le variabili valgono undef
- Costanti
  - Sono valori a cui è associato un nome
  - Funzione define

```
1  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
2     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
3
4  <!-- Fig. 26.4: operators.php   -->
5  <!-- Demonstration of operators -->
6
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>Using arithmetic operators</title>
10    </head>
11
12    <body>
13       <?php
14          $a = 5;
15          print( "The value of variable a is $a <br />" );
16
17          // define constant VALUE
18          define( "VALUE", 5 );
19
20          // add constant VALUE to variable $a
21          $a = $a + VALUE;
22          print( "Variable a after adding constant VALUE
23             is $a <br />" );
24
```

Define constant VALUE.

Add constant VALUE to variable $a.


```
25          // multiply variable $a by 2
26          $a *= 2;
27          print( "Multiplying variable a by 2 yields $a <br />" );
28
29          // test if variable $a is less than 50
30          if ( $a < 50 )
31             print( "Variable a is less than 50 <br />" );
32
33          // add 40 to variable $a
34          $a += 40;
35          print( "Variable a after adding 40 is $a <br />" );
36
37          // test if variable $a is 50 or less
38          if ( $a < 51 )
39             print( "Variable a is still 50 or less<br />" );
40
41          // test if variable $a is between 50 and 100, inclusive
42          elseif ( $a < 101 )
43             print( "Variable a is now between 50 and 100,
44                inclusive<br />" );
45          else
46             print( "Variable a is now greater than 100
47                <br />" );
48
```

Multiply variable $a by two using the multiplication assignment operator *=.

Test whether variable $a is less than 50

Print if variable $a is less than 50.

Add 40 to variable $a using the addition assignment operator +=.

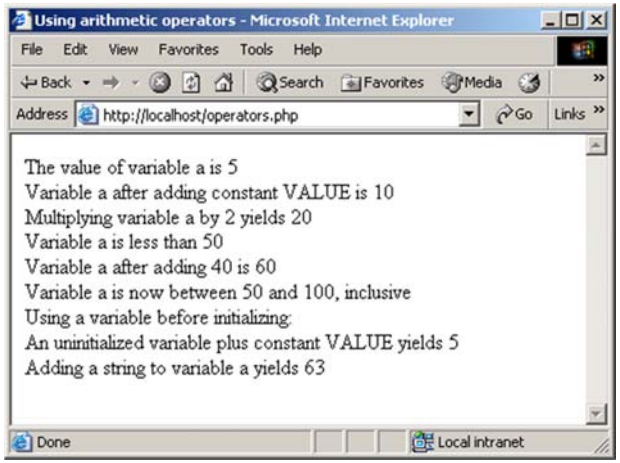

```
49          // print an uninitialized variable
50          print( "Using a variable before initializing:
51             $nothing <br />" );
52
53          // add constant VALUE to an uninitialized variable
54          $test = $num + VALUE;
55          print( "An uninitialized variable plus constant
56             VALUE yields $test <br />" );
57
58          // add a string to an integer
59          $str = "3 dollars";
60          $a += $str;
61          print( "Adding a string to variable a yields $a
62             <br />" );
63       ?>
64    </body>
65 </html>
```

Print an uninitialized variable ($nothing).

Add constant VALUE to an uninitialized variable.

Add a string to an integer.

Esecuzione



Array (1)

- Nome della variabile, seguito dall'indice racchiuso tra parentesi quadre
  - Gli indici partono da 0
- Funzioni
  - count
  - array

Array (2)

- Esistono costrutti predefiniti del linguaggio per la iterazione nell'array
  - reset
  - key
  - next
  - foreach loops
- Mantengono un puntatore all'elemento correntemente riferito

Keywords

PHP keywords					
and break case class continue default	do else elseif extends false	for foreach function global if	include list new not or	require return static switch this	true var virtual xor while

Fig. 26.5 PHP keywords.


```
1  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
2     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
3
4  <!-- Fig. 26.6: arrays.php -->
5  <!-- Array manipulation    -->
6
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>Array manipulation</title>
10    </head>
11
12    <body>
13       <?php
14
15          // create array first
16          print( "<strong>Creating the first array</strong>
17             <br />" );
18          $first[ 0 ] = "zero";
19          $first[ 1 ] = "one";
20          $first[ 2 ] = "two";
21          $first[] = "three";
22
23          // print each element's index and value
24          for ( $i = 0; $i < count( $first ); $i++ )
25             print( "Element $i is $first[$i] <br />" );
```

Create the array `$first` by assigning a value to an array element.

Assign a value to the array, omitting the index. Appends a new element to the end of the array.

Use a `for` loop to print out each element's index and value. Function `count` returns the total number of elements in the array.

```
26
27          print( "<br /><strong>Creating the second array
28             </strong><br />" );
29
30          // call function array to create array second
31          $second = array( "zero", "one", "two", "three" );
32          for ( $i = 0; $i < count( $second ); $i++ )
33             print( "Element $i is $second[$i] <br />" );
34
35          print( "<br /><strong>Creating the third array
36             </strong><br />" );
37
38          // assign values to non-numerical indices
39          $third[ "ArtTic" ] = 21;
40          $third[ "LunaTic" ] = 18;
41          $third[ "GalAnt" ] = 23;
42
43          // iterate through the array elements and print each
44          // element's name and value
45          for ( reset( $third ); $element = key( $third );
46             next( $third ) )
47             print( "$element is $third[$element] <br />" );
48
```

Call function `array` to create an array that contains the arguments passed to it. Store the array in variable `$second`.

Assign values to non-numerical indices in array `$third`.

Function `reset` sets the internal pointer to the first element of the array.

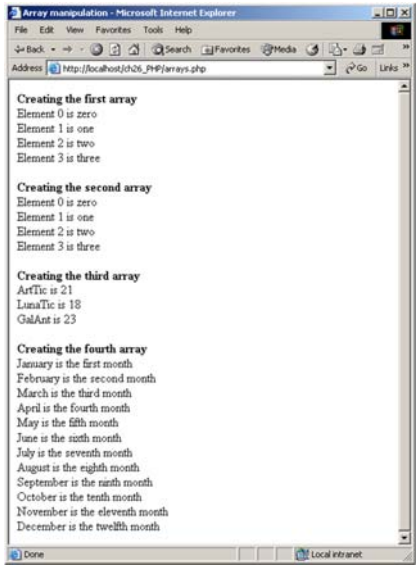
Function key returns the index of the element which the internal pointer references.

Function `next` moves the internal pointer to the next element.


```
49          print( "<br /><strong>Creating the fourth array
50             </strong><br />" );
51
52          // call function array to create array fourth using
53          // string indices
54          $fourth = array(
55             "January"   => "first",   "February" => "second",
56             "March"     => "third",   "April"    => "fourth",
57             "May"       => "fifth",   "June"     => "sixth",
58             "July"      => "seventh", "August"   => "eighth",
59             "September" => "ninth",   "October"  => "tenth",
60             "November"  => "eleventh","December" => "twelfth"
61             );
62
63          // print each element's name and value
64          foreach ( $fourth as $element => $value )
65             print( "$element is the $value month <br />" );
66       ?>
67    </body>
68 </html>
```

Operator **=>** is used in function `array` to assign each element a string index. The value to the left of the operator is the array index, and the value to the right is the element's value.

Esecuzione



Elaborazione di stringhe

- Funzione strcmp
  - restituisce
    - –1 se string 1 < string 2
    - 0 se string 1 = string 2
    - +1 sestring 1 > string 2

```
1  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
2     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
3
4  <!-- Fig. 26.7: compare.php -->
5  <!-- String Comparison      -->
6
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>String Comparison</title>
10    </head>
11
12    <body>
13       <?php
14
15          // create array fruits
16          $fruits = array( "apple", "orange", "banana" );
17
18          // iterate through each array element
19          for ( $i = 0; $i < count( $fruits ); $i++ ) {
20
21             // call function strcmp to compare the array element
22             // to string "banana"
23             if ( strcmp( $fruits[ $i ], "banana" ) < 0 )
24                print( $fruits[ $i ]." is less than banana " );
```

Use a `for` loop to iterate through each array element.

Function `strcmp` compares two strings. If the first string alphabetically precedes the second, then `-1` is returned. If the strings are equal, `0` is returned. If the first string alphabetically follows the second, then `1` is returned.


```
25             elseif ( strcmp( $fruits[ $i ], "banana" ) > 0 )
26                print( $fruits[ $i ].
27                   " is greater than banana " );
28             else
29                print( $fruits[ $i ]." is equal to banana " );
30
31             // use relational operators to compare each element
32             // to string "apple"
33             if ( $fruits[ $i ] < "apple" )
34               print( "and less than apple! <br />" );
35             elseif ( $fruits[ $i ] > "apple" )
36               print( "and greater than apple! <br />" );
37             elseif ( $fruits[ $i ] == "apple" )
38                print( "and equal to apple! <br />" );
39
40          }
41       ?>
42    </body>
43 </html>
```

Use relational operators to compare each array element to string `"apple"`.

Esecuzione

Espressioni regolari

- Template per il pattern matching
  - Funzione ereg
    - POSIX
  - Funzione preg_match
    - Perl
  - Funzione ereg_replace
- Per costruire espressioni regolari
  - Metacaratteri ($, ., ^)
  - Parentesi quadre ([,])

Metacaratteri (1)

- **.** indica qualsiasi carattere (escluso un ‘a capo’)
- ***** indica zero o più occorrenze (di un carattere o di un gruppo di caratteri)
- **?** indica zero o una occorrenza (di un carattere o di un gruppo di caratteri)
- **{}** le parentesi graffe, indicano il numero esatto, o minimo, o massimo, o l'intervallo di occorrenze (di un carattere o di un gruppo di caratteri)

Metacaratteri (2)

- **+** indica una o più occorrenze (di un carattere o di un gruppo di caratteri)
- **^** indica l'inizio della stringa (o, se all'interno di una classe di caratteri, la negazione della stessa)
- **$** indica la fine della stringa
- **|** indica l'operatore OR

Metacaratteri (3)

- **** il carattere di escape dei caratteri speciali (es. ‘\?’ per riferirsi al punto interrogativo inteso come carattere e non come carattere speciale)
- **()** le parentesi tonde, destinate a contenere una sottostringa
- **[]** le parentesi quadre, destinate a contenere una 'classe' di caratteri

Classi di caratteri (1)

Le parentesi quadre [], racchiudono una "classe di caratteri": il modello può o deve contenere alcuni o tutti i caratteri in esse contenute. Esempi:

[abc]
questo modello è soddisfatto quando viene trovata una delle lettere, senza tener conto dell'ordine in cui sono presenti;

[a-z]
in questo modello è presente un intervallo di caratteri (notare il segno -, sta per "dalla a alla z"), esso è soddisfatto quando viene trovato uno qualsiasi dei caratteri compresi nell'intervallo;

[0-9]
in questo modello è presente invece un intervallo di numeri, esso è soddisfatto quando viene trovato uno qualsiasi dei numeri compresi nell'intervallo;

[a-z0-9\?]
questo modello è leggermente più complesso, ma dovrebbe essere di facile comprensione. La corrispondenza viene trovata quando la stringa contiene una lettera (minuscola in questo caso), un numero o il carattere ? (notate il segno \ prima di ?, perchè il punto interrogativo è un carattere speciale, che qui però assumiamo per il suo valore letterale);

[^a-z]
questo modello è soddisfatto quando viene trovato un qualsiasi carattere che non sia una lettera minuscola (notate il segno ^ che all'interno della classe, la nega);

Classi di caratteri (2)

- **[[:alpha:]]** indica qualsiasi lettera, maiuscola o minuscola
- **[[:digit:]]** indica qualsiasi cifra
- **[[:space:]]** indica tutti i caratteri di spazio (\t\r\n)
- **[[:upper:]]** indica le lettere maiuscole
- **[[:lower:]]** indica le lettere minuscole
- **[[:punct:]]** indica i caratteri di punteggiatura
- **[[:xdigit:]]** indica i valori esadecimali

Classi di caratteri (3)

una classe di caratteri può essere seguita (e normalmente lo è) da uno dei metacaratteri che indicano il numero di volte in cui uno dei caratteri in essa contenuti, deve essere presente, ad esempio:

[a-z0-9\?]?
i caratteri contenuti nella classe devono essere presenti zero o una volta;

[a-z0-9\?]*
i caratteri contenuti nella classe devono essere presenti zero o più volte;

[a-z0-9\?]{3}
i caratteri contenuti nella classe devonoo essere presenti esattamente tre volte;

[a-z0-9\?]{1,3}
i caratteri contenuti nella classe devono essere presenti da una a tre volte;

[a-z0-9\?]{3,}
i caratteri contenuti nella classe devono essere presenti minimo tre volte;

[a-z0-9\?]{,3}
i caratteri contenuti nella classe devono essere presenti massimo tre volte.

Parentesi Graffe

Indicano il numero esatto, minimo, massimo o l'intervallo di volte in cui una un'esatta sequenza o una classe di caratteri, devono essere presenti in una stringa:

- **{3}** esattamente 3 volte;
- **{3,}** minimo 3 volte;
- **{,3}** massimo 3 volte;
- **{1,3}** da 1 a 3 volte;

Parentesi Tonde

Fanno riferimento ad una sottostringa che viene assunta per il suo esatto valore letterale:
- **(abc) vs. [abc]**: (abc) indica l'esatta sequenza di caratteri, [abc] si riferisce invece ad uno dei tre caratteri.

Possono essere combinate con i metacaratteri che indicano il numero di volte in cui la sottostringa deve ripetersi:
- **(casa)?** indica la presenza opzionale della parola casa

Abbreviazioni

Usate in relazione alle classi di caratteri usate più di frequente.

- **\d** equivale a [0-9]
- **\D** equivale a [^0-9]
- **\w** equivale a [0-9A-Za-z]
- **\W** equivale a [^0-9A-Za-z]
- **\s** equivale a [\t\n\r]
- **\S** equivale a [^ \t\n\r]

ereg(arg1, arg2)

Trova la corrispondenza di un modello (arg1) all'interno di una stringa (arg2):
ereg(string epressione_regolare, string stringa [, array regs])

ereg(arg1, arg2)

Restituisce TRUE / FALSE se viene trovata o meno la corrispondenza
Il terzo argomento, opzionale restituisce l'array che contiene tanti elementi quante sono le parti del modello poste tra parentesi tonde ritrovate nella stringa più uno che sarà costituito dall'intera stringa ritrovata, e a questo array si potrà naturalmente fare riferimento per "utilizzare" quelle parti di testo ritrovate.


```
1  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
2     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
3
4  <!-- Fig. 26.8: expression-php -->
5  <!-- Using regular expressions -->
6
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>Regular expressions</title>
10    </head>
11
12    <body>
13       <?php
14          $search = "Now is the time";
15          print( "Test string is: '$search'<br /><br />" );
16
17          // call function ereg to search for pattern 'Now'
18          // in variable search
19          if ( ereg( "Now", $search ) )
20             print( "String 'Now' was found.<br />" );
21
```

Function ereg searches for the literal characters Now inside variable $search.

```
22          // search for pattern 'Now' in the beginning of
23          // the string
24          if ( ereg( "^Now", $search ) )
25             print( "String 'Now' found at beginning
26                of the line.<br />" );
27
28          // search for pattern 'Now' at the end of the string
29          if ( ereg( "Now$", $search ) )
30             print( "String 'Now' was found at the end
31                of the line.<br />" );
32
33          // search for any word ending in 'ow'
34          if ( ereg( "[[:<:]]([a-zA-Z]*ow)[[:>:]]", $search,
35             $match ) )
36             print( "Word found ending in 'ow': " .
37                $match[ 1 ] . "<br />" );
38
39          // search for any words beginning with 't'
40          print( "Words beginning with 't' found: ");
41
42          while ( eregi( "[[:<:]](t[[:alpha:]]+)[[:>:]]",
43             $search, $match ) ) {
44             print( $match[ 1 ] . " " );
45
```

The special bracket expressions [[:<:]] and [[:>:]] match the beginning and end of a word, respectively.

The expression inside the parentheses, [a-zA-Z]*ow, matches any word ending in ow

Placing a pattern in parentheses stores the matched string in the array that is specified in the third argument to function ereg.

The pattern used in this example, [[:<:]](t[[:alpha:]]+)[[:>:]], matches any word beginning with the character t followed by one or more characters. Character class [[:alpha:]] recognizes any alphabetic character.

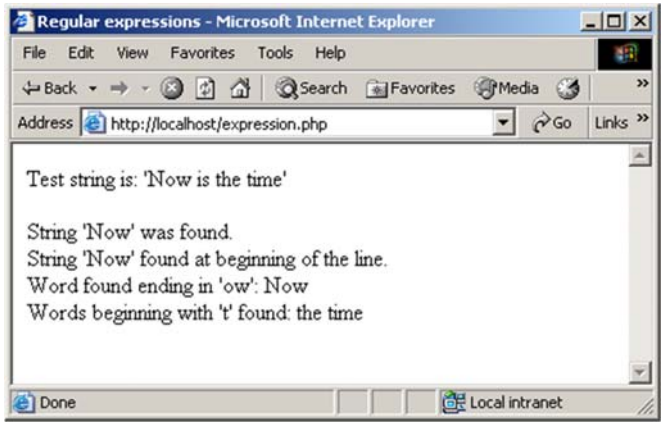
Function eregi is used to specify case insensitive pattern matches.

The while loop is used to find each occurrence of a word in the string beginning with t.


```
46          // remove the first occurrence of a word beginning
47          // with 't' to find other instances in the string
48          $search = ereg_replace( $match[ 1 ], "", $search );
49       }
50
51       print( "<br />" );
52    ?>
53 </body>
54 </html>
```

After printing a match of a word beginning with t, function ereg_replace is called to remove the word from the string. This is necessary be because to find multiple instances of a given pattern, the first matched instance must first be removed. Function ereg_replace takes three arguments: the pattern to match, a string to replace the matched string and the string to search.

Esecuzione



Espressioni regolari: Quantificatori

Quantifier	Matches
{n}	Exactly n times.
{m,n}	Between m and n times inclusive.
{n,}	n or more times.
+	One or more times (same as {1,}).
*	Zero or more times (same as {0,}).
?	Zero or one time (same as {0,1}).

Fig. 26.9 Some PHP quantifiers.

Espressioni regolari: Classi di caratteri

Character class	Description
`alnum`	Alphanumeric characters (i.e., letters [`a-zA-Z`] or digits [`0-9`]).
`alpha`	Word characters (i.e., letters [`a-zA-Z`]).
`digit`	Digits.
`space`	Whitespace.
`lower`	Lowercase letters.
`upper`	Uppercase letters.

Fig. 26.10 Some PHP character classes.

Variabili di ambiente Client/Server (1)

- Forniscono informazioni riguardo l'ambiente di esecuzione
  - Web browser
  - Server
  - Dettagli sulla connessione HTTP
- PHP gestisce queste informazioni in un array
  - $_ENV

Variabili di ambiente Client/Server (2)

Variable name	Description
`$_SERVER`	Data about the currently running server.
`$_ENV`	Data about the client's environment.
`$_GET`	Data posted to the server by the `get` method.
`$_POST`	Data posted to the server by the `post` method.
`$_COOKIE`	Data contained in cookies on the client's computer.
`$GLOBALS`	Array containing all global variables.

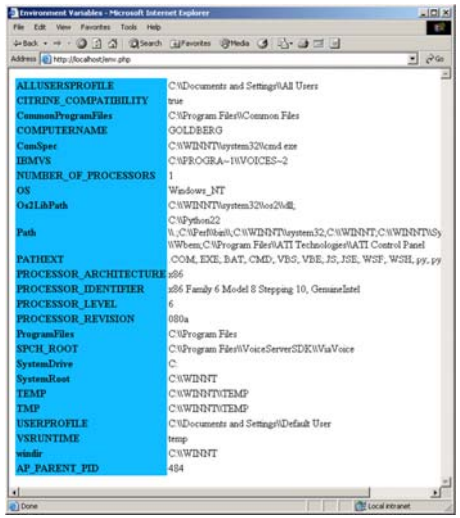
Fig. 26.11 Some useful global arrays.


```
1  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
2     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
3
4  <!-- Fig. 26.11: env.php                          -->
5  <!-- Program to display environment variables -->
6
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>Environment Variables</title>
10    </head>
11
12    <body>
13       <table border = "0" cellpadding = "2" cellspacing = "0"
14          width = "100%">
15       <?php
16
17          // print the key and value for each element
18          // in the $_ENV array
19          foreach ( $_ENV as $key => $value )
20             print( "<tr><td bgcolor = \"#11bbff\">
21                <strong>$key</strong></td>
22                <td>$value</td></tr>" );
23       ?>
24       </table>
25    </body>
26 </html>
```

PHP stores environment variables and their values in the `$_ENV` array.

The `foreach` loop is used to print out the keys and values for each element in the `$_ENV` array.

Esecuzione



Elaborazione di Form

- Sono elaborati principalmente mediante
  - Proprietà action
    - Specifica dove inviare i dati del form
  - Proprietà method
    - Post
  - Ogni elemento ha un unico nome


```
1  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
2     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
3
4  <!-- Fig. 26.13: form.html                  -->
5  <!-- Form for use with the form.php program -->
6
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>Sample form to take user input in XHTML</title>
10    </head>
11
12    <body>
13
14       <h1>This is a sample registration form.</h1>
15       Please fill in all fields and click Register.
16
17       <!-- post form data to form.php -->
18       <form method = "post" action = "form.php">
19          <img src = "images/user.gif" alt = "User" /><br />
20          <span style = "color: blue">
21             Please fill out the fields below.<br />
22          </span>
23
```

The `action` attribute of the `form` element indicates that when the user clicks **Register**, the form data will be posted to `form.php`.


```
24          <!-- create four text boxes for user input -->
25          <img src = "images/fname.gif" alt = "First Name" />
26          <input type = "text" name = "fname" /><br />
27
28          <img src = "images/lname.gif" alt = "Last Name" />
29          <input type = "text" name = "lname" /><br />
30
31          <img src = "images/email.gif" alt = "Email" />
32          <input type = "text" name = "email" /><br />
33
34          <img src = "images/phone.gif" alt = "Phone" />
35          <input type = "text" name = "phone" /><br />
36
37          <span style = "font-size: 10pt">
38             Must be in the form (555)555-5555</span>
39          <br /><br />
40
41          <img src = "images/downloads.gif"
42             alt = "Publications" /><br />
43
44          <span style = "color: blue">
45             Which book would you like information about?
46          </span><br />
47
```

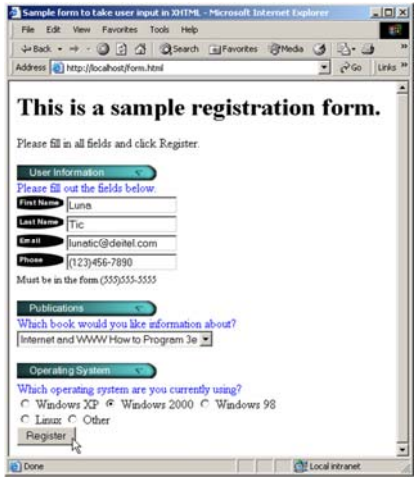
A unique `name` (e.g., `email`) is assigned to each of the form's `input` fields. When **Register** is clicked, each field's `name` and `value` are sent to the Web server.

```
48          <!-- create drop-down list containing book names -->
49          <select name = "book">
50             <option>Internet and WWW How to Program 3e</option>
51             <option>C++ How to Program 4e</option>
52             <option>Java How to Program 5e</option>
53             <option>XML How to Program 1e</option>
54          </select>
55          <br /><br />
56
57          <img src = "images/os.gif" alt = "Operating System" />
58          <br /><span style = "color: blue">
59             Which operating system are you currently using?
60          <br /></span>
61
62          <!-- create five radio buttons -->
63          <input type = "radio" name = "os" value = "Windows XP"
64             checked = "checked" />
65             Windows XP
66
67          <input type = "radio" name = "os" value =
68             "Windows 2000" />
69             Windows 2000
70
71          <input type = "radio" name = "os" value =
72             "Windows 98" />
73             Windows 98<br />
```



```
74
75          <input type = "radio" name = "os" value = "Linux" />
76             Linux
77
78          <input type = "radio" name = "os" value = "Other" />
79             Other<br />
80
81           <!-- create a submit button -->
82          <input type = "submit" value = "Register" />
83       </form>
84
85    </body>
86 </html>
```


Esecuzione



Elaborazione Server dei dati sottomessi in un form (1)

- Conferma della validità dei dati sottomessi
  - Funzione extract
    - Crea variabili corrispondenti a ogni coppia chiave-valore nell'array
    - Permette di recuperare facilmente tutti i valori inviati a una pagina PHP
- Uso di espressioni regolari

Elaborazione Server dei dati sottomessi in un form (2)

- Buona norma di programmazione
  - Effettuare sul lato client tutte le verifiche possibili, così da poter alleggerire le attività del server
    - JavaScript
- Fine di uno script
  - Funzione die


```
1  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
2     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
3
4  <!-- Fig. 26.14: form.php                 -->
5  <!-- Read information sent from form.html -->
6
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>Form Validation</title>
10    </head>
11
12    <body style = "font-family: arial,sans-serif">
13
14       <?php
15          extract( $_POST );
16
17          // determine whether phone number is valid and print
18          // an error message if not
19          if ( !ereg( "^\([0-9]{3}\)[0-9]{3}-[0-9]{4}$",
20             $phone ) ){
21
```

Function ereg is called to determine whether the phone number entered by the user is valid.

The expression \(matches the opening parentheses of a phone number.

The parentheses in the expression must be followed by three digits ([0-9]{3}), a closing parenthesis, three digits, a literal hyphen and four additional digits.

We access the phone field's value from form.html by using variable $phone.

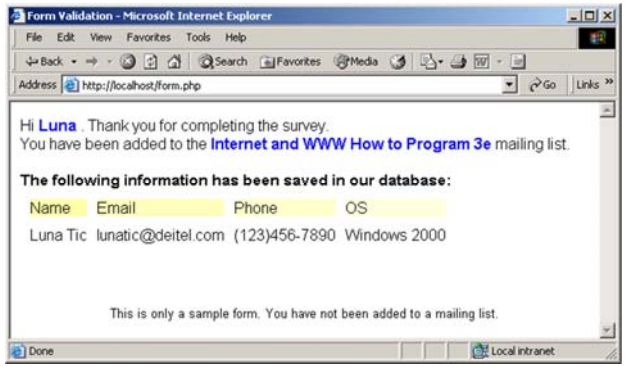

```
22             print( "<p><span style = \"color: red;
23                font-size: 2em\">
24                INVALID PHONE NUMBER</span><br />
25                A valid phone number must be in the form
26                <strong>(555)555-5555</strong><br />
27                <span style = \"color: blue\">
28                Click the Back button, enter a valid phone
29                number and resubmit.<br /><br />
30                Thank You.</span></p></body></html>" );
31
32             die(); // terminate script execution
33          }
34       ?>
35
36       <p>Hi
37          <span style = "color: blue">
38             <strong>
39                <?php print( "$fname" ); ?>
40             </strong>
41          </span>.
42          Thank you for completing the survey.<br />
43
```

Function die terminates script execution


```
44          You have been added to the
45          <span style = "color: blue">
46             <strong>
47                <?php print( "$book " ); ?>
48             </strong>
49          </span>
50          mailing list.
51       </p>
52       <strong>The following information has been saved
53          in our database:</strong><br />
54
55       <table border = "0" cellpadding = "0" cellspacing = "10">
56          <tr>
57             <td bgcolor = "#ffffaa">Name </td>
58             <td bgcolor = "#ffffbb">Email</td>
59             <td bgcolor = "#ffffcc">Phone</td>
60             <td bgcolor = "#ffffdd">OS</td>
61          </tr>
62
63          <tr>
64             <?php
65
```

```
66              // print each form field's value
67              print( "<td>$fname $lname</td>
68                 <td>$email</td>
69                 <td>$phone</td>
70                 <td>$os</td>" );
71           ?>
72        </tr>
73     </table>
74
75     <br /><br /><br />
76     <div style = "font-size: 10pt; text-align: center">
77        This is only a sample form.
78        You have not been added to a mailing list.
79     </div>
80  </body>
81 </html>
```


Esecuzione



Verifica di Username e Password (1)

- Per siti web ad accesso controllato
  - L'accesso è permesso solo a chi ne ha diritto
  - Per motivi di sicurezza i dati di username e password sono criptati quando
    - spediti,
    - memorizzati,
    - recuperati

Verifica di Username e Password (2)

- I dati di login sono memorizzati in un file
  - Funzione fopen, in modalità di
    - read
    - write
    - append
  - Memorizzazione mediante funzione fputs
    - \n carattere di newline
  - La chiusura del file avviene mediante la funzione fclose

Verifica di Username e Password (3)

- Altre funzioni utili
  - Funzione chop
    - Elimina il carattere di newline
  - Funzione split
    - Spezza la stringa in sottostringhe


```
1  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
2     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
3
4  <!-- Fig. 26.15: password.html                          -->
5  <!-- XHTML form sent to password.php for verification -->
6
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>Verifying a username and a password.</title>
10
11       <style type = "text/css">
12          td { background-color: #DDDDDD }
13       </style>
14    </head>
15
16    <body style = "fon -family: arial">
17       <p style = "fon -size: 13pt">
18          Type in your username and password below.
19          <br />
20          <span style = "color: #0000FF; fon -size: 10pt;
21             fon -weight: bold">
22             Note that password will be sent as plain text
23          </span>
24       </p>
25
```



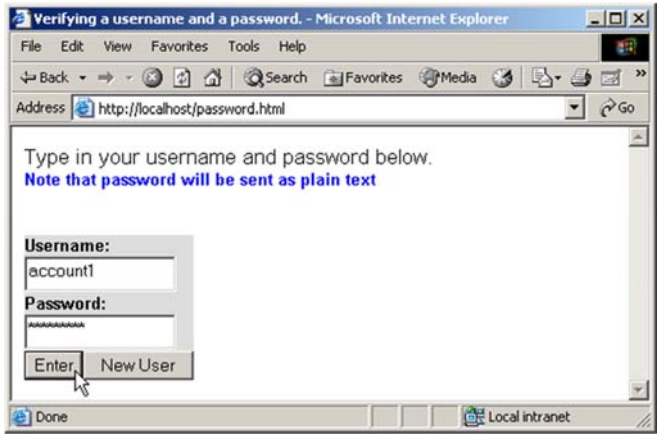
```
26       <!-- post form data to password.php -->
27       <form action = "password.php" method = "post">
28          <br />
29
30          <table border = "0" cellspacing = "0"
31             style = "height: 90px; width: 123px;
32             font-size: 10pt" cellpadding = "0">
33
34             <tr>
35                <td colspan = "3">
36                   <strong>Username:</strong>
37                </td>
38             </tr>
39
40             <tr>
41                <td colspan = "3">
42                   <input size = "40" name = "USERNAME"
43                      style = "height: 22px; width: 115px" />
44                </td>
45             </tr>
46
```

Form data is posted to `password.php`.


```
47             <tr>
48                <td colspan = "3">
49                   <strong>Password:</strong>
50                </td>
51             </tr>
52
53             <tr>
54                <td colspan = "3">
55                   <input size = "40" name = "PASSWORD"
56                      style = "height: 22px; width: 115px"
57                      type = "password" />
58                <br/></td>
59             </tr>
60
61             <tr>
62                <td colspan = "1">
63                   <input type = "submit" name = "Enter"
64                      value = "Enter" style = "height: 23px;
65                      width: 47px" />
66                </td>
67                <td colspan = "2">
68                   <input type = "submit" name = "NewUser"
69                      value = "New User"
70                      style = "height: 23px" />
71                </td>
```

```
72            </tr>
73         </table>
74      </form>
75   </body>
76 </html>
```


Esecuzione




```
1  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
2     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
3
4  <!-- Fig. 26.16: password.php                          -->
5  <!-- Searching a database for usernames and passwords. -->
6
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <?php
10          extract( $_POST );
11
12          // check if user has left USERNAME or PASSWORD field blank
13          if ( !$USERNAME || !$PASSWORD ) {
14             fieldsBlank();
15             die();
16          }
17
18          // check if the New User button was clicked
19          if ( isset( $NewUser ) ) {
20
21             // open password.txt for writing using append mode
22             if ( !( $file = fopen( "password.txt",
23                "a" ) ) ) {
24
```

Variable names, when preceded by the logical negation operator (`!`), return `true` if they are empty or set to `0`. This checks if a user has submitted a form without specifying a username or password.

Function `fieldsBlank` is called if the user has submitted an incomplete form to notify the user that all form fields must be completed.

Function `isset` tests whether the user has pressed the **New User** button, indicating that a new user must be added.

To add a new user, we open the file `password.txt` in `append` mode and assign the file handle that is returned to variable `$file`.


```
25             // print error message and terminate script
26             // execution if file cannot be opened
27             print( "<title>Error</title></head><body>
28               Could not open password file
29               </body></html>" );
30             die();
31          }
32
33          // write username and password to file and
34          // call function userAdded
35          fputs( $file, "$USERNAME,$PASSWORD\n" );
36          userAdded( $USERNAME );
37       }
38       else {
39
40          // if a new user is not being added, open file
41          // for reading
42          if ( !( $file = fopen( "password.txt",
43             "r" ) ) ) {
44             print( "<title>Error</title></head>
45                <body>Could not open password file
46                </body></html>" );
47             die();
48          }
49
```

Print an error message and terminate script execution if the file cannot be opened.

Function `fputs` writes the name and password to the text file..

Function `userAdded` is called to print a message to the user to indicate that the username and password were added to the file.

```
50          $userVerified = 0;
51
52          // read each line in file and check username
53          // and password
54          while ( !feof( $file ) && !$userVerified ) {
55
56             // read line from file
57             $line = fgets( $file, 255 );
58
59             // remove newline character from end of line
60             $line = chop( $line );
61
62             // split username and password
63             $field = split( ",", $line, 2 );
64
65             // verify username
66             if ( $USERNAME == $field[ 0 ] ) {
67                $userVerified = 1;
68
69                // call function checkPassword to verify
70                // user's password
71                if ( checkPassword( $PASSWORD, $field )
72                   == true )
73                   accessGranted( $USERNAME );
74                else
75                   wrongPassword();
```

Before entering the `while` loop, variable `$userVerified` is set to `0`.

`fgets` reads a line from the text file. Result is assigned to variable `$line`.

The `while` executes as long as there are more lines in file and variable `$userVerified` is still `0` or empty.

`chop` removes newline from the end of line.

Function `split` is called to separate the string at the specified delimiter (in this case, a comma). The resulting array is stored in array `$field`.

The username entered by the user is tested against the one returned in the text file (stored in the first element of the array). If they match, variable `$userVerified` is set to `1`.

Function `checkPassword` is called to verify the user's password. Variable `$PASSWORD` and array `$field` are passed to the function.

If function `checkPassword` returns `true`, function `accessGranted` is called to notify the client that permission has been granted. Otherwise, function `wrongPassword` is called.


```
76             }
77          }
78
79          // close text file
80          fclose( $file );
81
82          // call function accessDenied if username has
83          // not been verified
84          if ( !$userVerified )
85             accessDenied();
86       }
87
88       // verify user password and return a boolean
89       function checkPassword( $userpassword, $filedata )
90       {
91          if ( $userpassword == $filedata[ 1 ] )
92             return true;
93          else
94             return false;
95       }
96
```

After the `while` loop has executed, function `fclose` is called to close the file.

If variable `$userVerified` has not been set to a value other than `0`, function `accessDenied` is called to notify the client that access has been denied.

Function `checkPassword` compares the user's password to the password in the file. If they match, `true` is returned, whereas `false` is returned if they do not.


```
97       // print a message indicating the user has been added
98       function userAdded( $name )
99       {
100         print( "<title>Thank You</title></head>
101            <body style = \"font-family: arial;
102            font-size: 1em; color: blue\">
103            <strong>You have been added
104            to the user list, $name.
105            <br />Enjoy the site.</strong>" );
106      }
107
108      // print a message indicating permission
109      // has been granted
110      function accessGranted( $name )
111      {
112         print( "<title>Thank You</title></head>
113            <body style = \"font-family: arial;
114            font-size: 1em; color: blue\">
115            <strong>Permission has been
116            granted, $name. <br />
117            Enjoy the site.</strong>" );
118      }
119
```

Function `userAdded` prints a message to the client indicating that the user has been added.

Function `accessGranted` prints a message to the client indicating that permission has been granted.


```
120      // print a message indicating password is invalid
121      function wrongPassword()
122      {
123         print( "<title>Access Denied</title></head>
124            <body style = \"font-family: arial;
125            font-size: 1em; color: red\">
126            <strong>You entered an invalid
127            password.<br />Access has
128            been denied.</strong>" );
129      }
130
131      // print a message indicating access has been denied
132      function accessDenied()
133      {
134         print( "<title>Access Denied</title></head>
135            <body style = \"font-family: arial;
136            font-size: 1em; color: red\">
137            <strong>
138            You were denied access to this server.
139            <br /></strong>" );
140      }
141
```

Function `wrongPassword` prints a message to the client indicating that the password is invalid.

Function `accessDenied` prints a message to the client indicating that access has been denied.

```
142          // print a message indicating that fields
143          // have been left blank
144          function fieldsBlank()
145          {
146             print( "<title>Access Denied</title></head>
147                <body style = \"font-family: arial;
148                font-size: 1em; color: red\">
149                <strong>
150                Please fill in all form fields.
151                <br /></strong>" );
152          }
153       ?>
154    </body>
155 </html>
```

Function `fieldsBlank` prints a message to the client indicating that all form fields have not been completed.

Esecuzione


```
1  account1,password1
2  account2,password2
3  account3,password3
4  account4,password4
5  account5,password5
6  account6,password6
7  account7,password7
8  account8,password8
9  account9,password9
10 account10,password10
```


Database

- Per database intendiamo qualunque sistema atto a memorizzare dati organizzati
- Ci concentriamo su MySQL
  - Free
  - Si interfaccia bene con PHP
    - Il linguaggio fornisce modalità per accedere al db e ai suoi dati direttamente dalle pagine Web

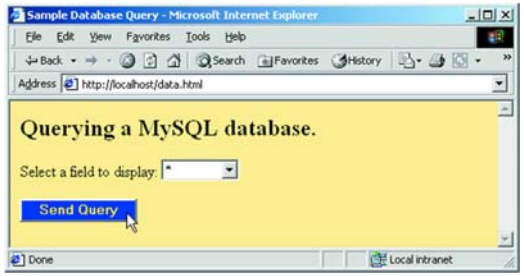
```
1  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
2     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
3
4  <!-- Fig. 26.18: data.html     -->
5  <!-- Querying a MySQL Database -->
6
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>Sample Database Query</title>
10    </head>
11
12    <body style = "background-color: #F0E68C">
13       <h2 style = "font-family: arial color: blue">
14          Querying a MySQL database.
15       </h2>
16
17       <form method = "post" action = "database.php">
18          <p>Select a field to display:
19
20             <!-- add a select box containing options -->
21             <!-- for SELECT query                    -->
```



```
22             <select name = "select">
23                <option selected = "selected">*</option>
24                <option>ID</option>
25                <option>Title</option>
26                <option>Category</option>
27                <option>ISBN</option>
28             </select>
29          </p>
30
31          <input type = "submit" value = "Send Query"
32             style = "background-color: blue;
33             color: yellow; font-weight: bold" />
34       </form>
35    </body>
36 </html>
```

Select box containing options for a SELECT query.

Esecuzione



Connessione a Database

- SQL (Structured Query Language): linguaggio usato per interagire con un db
- Offre molte funzioni utili:
  - mysql_connect
  - mysql_select_db
  - mysql_query
  - mysql_error
  - mysql_fetch_row
  - mysql_close
  - …

```
1  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
2     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
3
4  <!-- Fig. 26.19: database.php        -->
5  <!-- Program to query a database and -->
6  <!-- send results to the client.     -->
7
8  <html xmlns = "http://www.w3.org/1999/xhtml">
9     <head>
10       <title>Search Results</title>
11    </head>
12
13    <body style = "font-family: arial, sans-serif"
14       style = "background-color: #F0E68C">
15       <?php
16
17          extract( $_POST );
18
19          // build SELECT query
20          $query = "SELECT " . $select . " FROM Books";
21
22          // Connect to MySQL
23          if ( !( $database = mysql_connect( "localhost",
24             "httpd", "" ) ) )
25             die( "Could not connect to database" );
```

Build the select query and assign the string to variable `$query`.

Function `mysql_connect` returns a database handle which represents PHP's connection to a database. If this connection is not made, function `die` is called to terminate script execution.


```
26
27          // open Products database
28          if ( !mysql_select_db( "Products", $database ) )
29             die( "Could not open Products database" );
30
31          // query Products database
32          if ( !( $result = mysql_query( $query, $database ) ) ) {
33             print( "Could not execute query! <br />" );
34             die( mysql_error() );
35          }
36       ?>
37
38       <h3 style = "color: blue">
39       Search Results</h3>
40
41       <table border = "1" cellpadding = "3" cellspacing = "2"
42          style = "background-color: #ADD8E6">
43
44          <?php
45
46             // fetch each record in result set
47             for ( $counter = 0;
48                $row = mysql_fetch_row( $result );
49                $counter++ ){
50
```

Function `mysql_select_db` is called to specify the database to be queried.

Function `mysql_query` returns an object containing the result set of the query, which we assign to variable `$result`.

The `for` loop iterates through each record in the result set while constructing an XHTML table from the results. Variable `$counter` is incremented by one for each row retrieved.

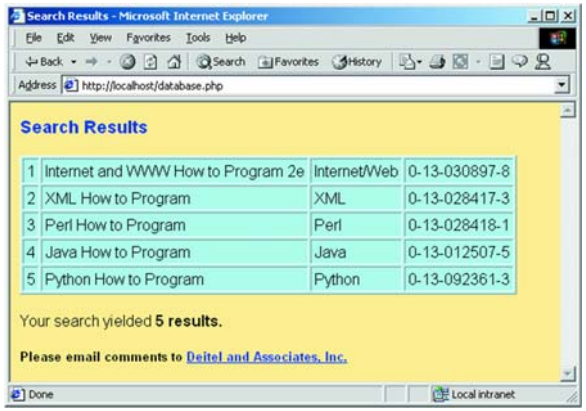
Function `mysql_fetch_row` returns an array containing the elements of each row in the result set of our query (`$result`).


```
51             // build table to display results
52             print( "<tr>" );
53
54             foreach ( $row as $key => $value )
55                print( "<td>$value</td>" );
56
57             print( "</tr>" );
58          }
59
60          mysql_close( $database );
61       ?>
62
63       </table>
64
65       <br />Your search yielded <strong>
66       <?php print( "$counter" ) ?> results.<br /><br /></strong>
67
68       <h5>Please email comments to
69          <a href = "mailto:deitel@deitel.com">
70             Deitel and Associates, Inc.
71          </a>
72       </h5>
73
74    </body>
75 </html>
```

The `foreach` loop iterates through the array containing the elements of each row and prints out each element in an individual table cell.

The total number of results are printed to the client.

Esecuzione



Cookies (1)

- Cookies: file di testo che registrano sul client informazioni relative al client stesso
  - Evitano di ripetere informazioni precedentemente fornite, ad esempio preferenze o particolari impostazioni
- Possono rappresentare attentati alla privacy
  - Attenzione alla registrazione di dati sensibili

Cookies (2)

- PHP fornisce strumenti per la gestione dei cookie
  - Funzione setcookie
    - Name
    - Value
    - Expiration date


```
1  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
2     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
3
4  <!-- Fig. 26.20: cookies.html -->
5  <!-- Writing a Cookie         -->
6
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head>
9        <title>Writing a cookie to the client computer</title>
10    </head>
11
12    <body style = "font-family: arial, sans-serif;
13       background-color: #99CCFF">
14
15       <h2>Click Write Cookie to save your cookie data.</h2>
16
```



```
17       <form method = "post" action = "cookies.php"
18          style = "font-size: 10pt">
19          <strong>Name:</strong><br />
20          <input type = "text" name = "NAME" /><br />
21
22          <strong>Height:</strong><br />
23          <input type = "text" name = "HEIGHT" /><br />
24
25          <strong>Favorite Color:</strong><br />
26          <input type = "text" name = "COLOR" /><br />
27
28          <input type = "submit" value = "Write Cookie"
29             style = "background-color: #F0E86C; color: navy;
30             font-weight: bold" /></p>
31       </form>
32    </body>
33 </html>
```

Form data is posted to `cookies.php`.

Esecuzione


```
1  <?php
2     // Fig. 26.21: cookies.php
3     // Program to write a cookie to a client's machine
4
5     extract( $_POST );
6     // write each form field's value to a cookie and set the
7     // cookie's expiration date
8     setcookie( "Name", $NAME, time() + 60 * 60 * 24 * 5 );
9     setcookie( "Height", $HEIGHT, time() + 60 * 60 * 24 * 5 );
10    setcookie( "Color", $COLOR, time() + 60 * 60 * 24 * 5 );
11 ?>
12
13 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
14    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
15
16 <html xmlns = "http://www.w3.org/1999/xhtml">
17    <head>
18       <title>Cookie Saved</title>
19    </head>
20
21    <body style = "font-family: arial, sans-serif">
22       <p>The cookie has been set with the following data:</p>
23
```

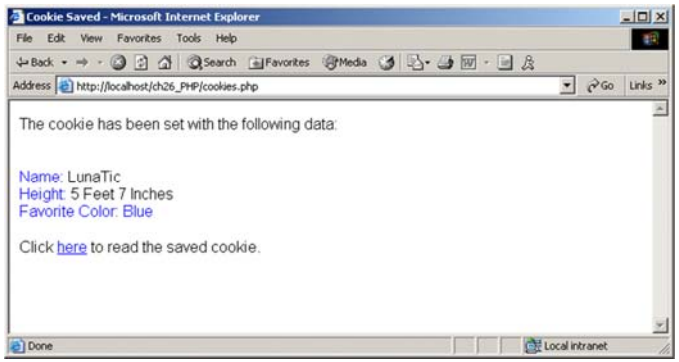
Function `setcookie` takes the name of the cookie to be set as the first argument, followed by the value to be stored in the cookie. The optional third argument specifies the expiration date of the cookie.


```
24       <!-- print each form field's value -->
25       <br /><span style = "color: blue">Name:</span>
26          <?php print( $NAME ) ?><br />
27
28       <span style = "color: blue">Height:</span>
29          <?php print( $HEIGHT ) ?><br />
30
31       <span style = "color: blue">Favorite Color:</span>
32
33       <span style = "color: <?php print( "$COLOR\">$COLOR" ) ?>
34       </span><br />
35       <p>Click <a href = "readCookies.php">here</a>
36          to read the saved cookie.</p>
37    </body>
38 </html>
```

Each form field's `value` is printed to confirm the data that has been set as a cookie with the user.

Hyperlink to `readCookies.php`.

Esecuzione



Lettura di Cookie

- Variabile di ambiente $_COOKIE
  - Array
- È possibile accedere ad ogni elemento dell'array con il loop foreach
  - Divide l'elemento in due:
    - chiave
    - valore

Memorizzazione di Cookie (1)

- I cookie sono memorizzati in file di testo localizzati nel file system del client in un'area nota al browser
  - Ad esempio directory Cookies per Internet Explorer

Memorizzazione di Cookie (2)

Directory prima della scrittura di un cookie

Directory dopo la scrittura di un cookie


```
1  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
2     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
3
4  <!-- Fig. 26.24: readCookies.php                        -->
5  <!-- Program to read cookies from the client's computer -->
6
7  <html xmlns = "http://www.w3.org/1999/xhtml">
8     <head><title>Read Cookies</title></head>
9
10    <body style = "font-family: arial, sans-serif">
11
12       <p>
13          <strong>
14             The following data is saved in a cookie on your
15             computer.
16          </strong>
17       </p>
18
```

```
19      <table border = "5" cellspacing = "0" cellpadding = "10">
20         <?php
21
22            // iterate through array $_COOKIE and print
23            // name and value of each cookie
24            foreach ( $_COOKIE as $key => $value )
25               print( "<tr>
26                  <td bgcolor=\"#F0E68C\">$key</td>
27                  <td bgcolor=\"#FFA500\">$value</td>
28                  </tr>" );
29         ?>
30
31      </table>
32   </body>
33 </html>
```

PHP creates array `$_COOKIE` which contains all cookie values indexed by their names.

The `foreach` loop iterates through the `$_COOKIE` array and prints the name and value of each cookie in an XHTML table.

Esecuzione

Contenuti Dinamici (1)

- Permettono di modificare dinamicamente il contenuto delle pagine XHTML
  - La prorietà action di un form si riferisce alla pagina che lo contiene
  - Svolge azioni diverse quando la pagina è caricata e quando il forma è inviato
    - Variabile isset

Contenuti Dinamici (2)

- Sintassi $$variable syntax
  - Permette di riferirsi a variabili il cui nome è il valore della variabile $variable
- Se l'input è valido, allora effettua chiamate a un db MySQL

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
   "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<!-- Fig. 26.25: dynamicForm.php            -->
<!-- Form for use with the form.php program -->

<html xmlns = "http://www.w3.org/1999/xhtml">
   <head>
      <title>Sample form to take user input in XHTML</title>
</head>

<body>
   <?php
      extract ( $_POST );
      $iserror = false;

      // array of book titles
      $booklist = array( "Internet and WWW How to Program 3e",
         "C++ How to Program 4e",
         "Java How to Program 5e",
         "XML How to Program 1e" );

```

Build array of options for the form.


```
      // array of possible operating systems
      $systemlist = array( "Windows XP",
         "Windows 2000",
         "Windows 98",
         "Linux",
         "Other");

      // array of name and alt values for the text input fields
      $inputlist = array( "fname" => "First Name",
         "lname" => "Last Name",
         "email" => "Email",
         "phone" => "Phone" );

      if ( isset ( $submit ) ) {
         if ( $fname == "" ) {
            $formerrors[ "fnameerror" ] = true;
            $iserror = true;
         }

         if ( $lname == "" ) {
            $formerrors[ "lnameerror" ] = true;
            $iserror = true;
         }

```

If the page is being loaded as a result of a form submission, do error checking and then retrieve information from the database.

Check for errors or omissions in form field input.


```
         if ( $email == "" ) {
            $formerrors[ "emailerror" ] = true;
            $iserror = true;
         }

         if ( !ereg( "^\([0-9]{3}\)[0-9]{3}-[0-9]{4}$", $phone ) ) {
            $formerrors[ "phoneerror" ] = true;
            $iserror = true;
         }

         if ( !$iserror ) {

            // build INSERT query
            $query = "INSERT INTO contacts " .
               "( LastName, FirstName, Email, Phone, Book, OS ) " .
               "VALUES ( '$lname', '$fname', '$email', " .
               "'" . quotemeta( $phone ) . "', '$book', '$os' )";

            // Connect to MySQL
            if ( !( $database = mysql_connect( "localhost",
               "httpd", "" ) ) )
               die( "Could not connect to database" );

            // open MailingList database
            if ( !mysql_select_db( "MailingList", $database ) )
               die( "Could not open MailingList database" );

```

If there were no errors, query the MySQL database.


```

            // execute query in MailingList database
            if ( !( $result = mysql_query( $query, $database ) ) ) {
               print( "Could not execute query! <br />" );
               die( mysql_error() );
            }

            print( "<p>Hi
               <span style = 'color: blue'>
               <strong>$fname</strong></span>.
               Thank you for completing the survey.<br />

               You have been added to the
               <span style = 'color: blue'>
               <strong>$book</strong></span>
               mailing list.
               </p>
               <strong>The following information has been saved
               in our database:</strong><br />

               <table border = '0' cellpadding = '0' cellspacing = '10'>
               <tr>
               <td bgcolor = '#ffffaa'>Name</td>
               <td bgcolor = '#ffffbb'>Email</td>
               <td bgcolor = '#ffffcc'>Phone</td>
```

```
98              <td bgcolor = '#ffffdd'>OS</td>
99              </tr>
100             <tr>
101
102             <!-- print each form field's value -->
103             <td>$fname $lname</td>
104             <td>$email</td>
105             <td>$phone</td>
106             <td>$os</td>
107             </tr></table>
108
109             <br /><br /><br />
110             <div style = 'font-size: 10pt; text-align: center'>
111             <div style = 'font-size : 18pt'>
112             <a href = 'formDatabase.php'>
113             Click here to view entire database.</a></div>
114             This is only a sample form.
115             You have not been added to a mailing list.
116             </div></body></html>" );
117          die();
118       }
119    }
120
121    print( "<h1>This is a sample registration form.</h1>
122       Please fill in all fields and click Register." );
```

Halt the script so the form-generation code does not execute.


```
123
124    if ( $iserror ) {
125       print( "<br /><span style = 'color : red'>
126          Fields with * need to be filled in properly.</span>" );
127    }
128
129    print( "<!-- post form data to form.php -->
130       <form method = 'post' action = 'dynamicform.php'>
131       <img src = 'images/user.gif' alt = 'User' /><br />
132       <span style = 'color: blue'>
133       Please fill out the fields below.<br />
134       </span>
135
136       <!-- create four text boxes for user input -->" );
137    foreach ( $inputlist as $inputname => $inputalt ) {
138       $inputtext = $inputvalues[ $inputname ];
139
140       print( "<img src = 'images/$inputname.gif'
141          alt = '$inputalt' /><input type = 'text'
142          name = '$inputname' value = '" . $$inputname . "' />" );
143
144       if ( $formerrors[ ( $inputname )."error" ] == true )
145          print( "<span style = 'color : red'>*</span>" );
146
147       print( "<br />" );
148    }
```

Fill in the forms using $$*variable* syntax.

If the form input contained errors, place a red asterisk (*) next to the text field.


```
149
150    print( "<span style = 'font-size : 10pt" );
151
152    if ( $formerrors[ "phoneerror" ] )
153       print( "; color : red" );
154
155    print( "'>Must be in the form (555)555-5555
156       </span><br /><br />
157
158       <img src = 'images/downloads.gif'
159       alt = 'Publications' /><br />
160
161       <span style = 'color: blue'>
162       Which book would you like information about?
163       </span><br />
164
165       <!-- create drop-down list containing book names -->
166       <select name = 'book'>" );
167
168    foreach ( $booklist as $currbook ) {
169       print( "<option" );
170
171       if ( ( $currbook == $book ) )
172          print( " selected = 'true'" );
173
```

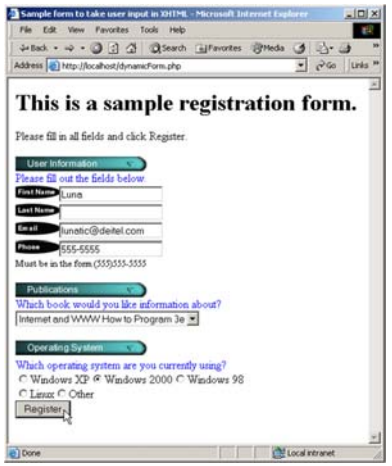
Make sure the correct book is selected in the dropdown box.

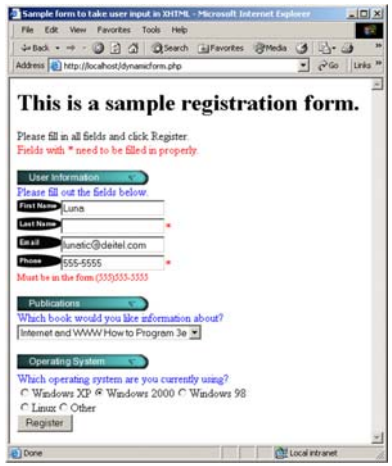

```
174       print( ">$currbook</option>" );
175    }
176
177    print( "</select><br /><br />
178       <img src = 'images/os.gif' alt = 'Operating System' />
179       <br /><span style = 'color: blue'>
180       Which operating system are you currently using?
181       <br /></span>
182
183       <!-- create five radio buttons -->" );
184
185    $counter = 0;
186
187    foreach ( $systemlist as $currsystem ) {
188       print( "<input type = 'radio' name = 'os'
189          value = '$currsystem'" );
190
191       if ( $currsystem == $os ) print( "checked = 'checked'" );
192       if ( $iserror && $counter == 0 ) print( "checked = 'checked'" );
193
194       print( " />$currsystem" );
195
196       if ( $counter == 2 ) print( "<br />" );
197       $counter++;
198    }
199
```

Make sure the correct OS is checked in the checkbox.

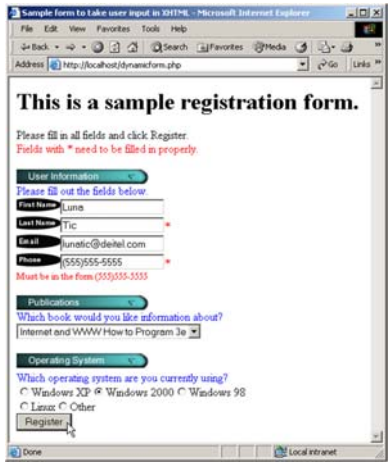
```
200       print( "<!-- create a submit button -->
201          <br />
202          <input type = 'submit' name = 'submit' value = 'Register' />
203          </form></body></html>" );
204    ?>
```


Esecuzione (1)





Esecuzione (2)




```
1  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
2     "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
3
4  <!-- Fig. 26.26: formDatabase.php        -->
5  <!-- Program to query a database and -->
6  <!-- send results to the client.     -->
7
8  <html xmlns = "http://www.w3.org/1999/xhtml">
9     <head>
10       <title>Search Results</title>
11    </head>
12
13    <body style = "font-family: arial, sans-serif"
14       style = "background-color: #F0E68C">
15       <?php
16
17          extract( $_POST );
18
19          // build SELECT query
20          $query = "SELECT * FROM contacts";
21
22          // Connect to MySQL
23          if ( !( $database = mysql_connect( "localhost",
24             "httpd", "" ) ) )
25             die( "Could not connect to database" );
```

Build the query string.

```
26
27          // open MailingList database
28          if ( !mysql_select_db( "MailingList", $database ) )
29             die( "Could not open MailingList database" );
30
31          // query MailingList database
32          if ( !( $result = mysql_query( $query, $database ) ) ) {
33             print( "Could not execute query! <br />" );
34             die( mysql_error() );
35          }
36       ?>
37
38       <h3 style = "color: blue">
39       Mailing List Contacts</h3>
40
41       <table border = "1" cellpadding = "3" cellspacing = "2"
42          style = "background-color: #ADD8E6">
43
44          <tr>
45             <td>ID</td>
46             <td>Last Name</td>
47             <td>First Name</td>
48             <td>E-mail Address</td>
49             <td>Phone Number</td>
50             <td>Book</td>
```

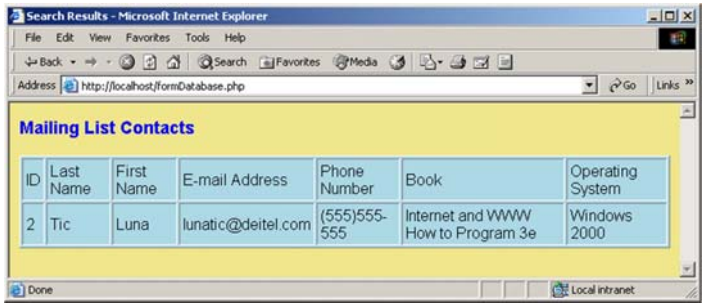


```
51             <td>Operating System</td>
52          </tr>
53          <?php
54
55             // fetch each record in result set
56             for ( $counter = 0;
57                $row = mysql_fetch_row( $result );
58                $counter++ ){
59
60                // build table to display results
61                print( "<tr>" );
62
63                foreach ( $row as $key => $value )
64                   print( "<td>$value</td>" );
65
66                print( "</tr>" );
67             }
68
69             mysql_close( $database );
70          ?>
71
72       </table>
73
74    </body>
75 </html>
```

Retrieve each mailing list member record from the database.

Dynamically create a table containing each mailing list member.

Esecuzione



Precedenza degli Operatori (1)

Operator	Type	Associativity
new	constructor	none
[]	subscript	right to left
~ ! ++ -- - @	bitwise not not increment decrement unary negative error control	right to left
* / %	multiplication division modulus	left to right
+ - .	addition subtraction concatenation	left to right
<< >>	bitwise shift left bitwise shift right	left to right
< > <= >=	less than greater than less than or equal greater than or equal	none
== != === !==	equal not equal identical not identical	none

Fig. 26.27 PHP operator precedence and associativity.

Precedenza degli Operatori (2)

Operator	Type	Associativity
`&`	bitwise AND	left to right
`^`	bitwise XOR	left to right
`|`	bitwise OR	left to right
`&&`	logical AND	left to right
`||`	logical OR	left to right

`=`
`+=`
`-=`
`*=`
`/=`
`&=`
`|=`
`^=`
`.=`
`<<=`
`>>=`
	assignment
	addition assignment
	subtraction assignment
	multiplication assignment
	division assignment
	bitwise AND assignment
	bitwise OR assignment
	bitwise exclusive OR assignment
	concatenation assignment
	bitwise shift left assignment
	bitwise shift right assignment
		left to right

`and`	logical AND	left to right
`xor`	exclusive OR	left to right
`or`	logical OR	left to right
`,`	list	left to right

Fig. 26.27 PHP operator precedence and associativity.