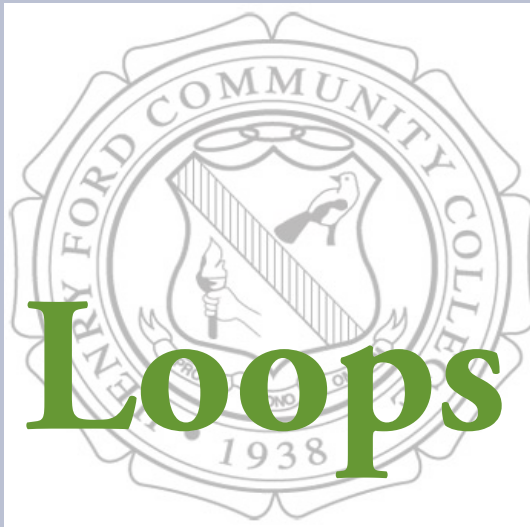




HFCC – CIS222

1 February 2012

Announcements:

✓ Quiz 3

- You just took it...

✓ Homework 2 due on Monday

✓ Quiz 4 on Monday as well

- Decisions

Pre-Test Loop

➤ Tests to see if the loop should run before each execution

- Will run 0 or more times
- Format:

```
while (condition statement) {  
    // Stuff to do repetitively  
}
```

- Example:

```
$x = 0;  
while ($x < 10) {  
    echo "$x<br>";  
    $x += 1;  
}
```

Post-Test Loop

➤ Tests to see if the loop should run **after** each execution

- Will run at least once (1 or more times)

- Format:

```
do {  
    // Stuff to do repetitively  
} while (condition statement);
```

- Example:

```
$x = 0;  
do {  
    echo "$x<br>";  
    $x += 1;  
} while ($x < 10)
```

Which Loop to Choose

➤ Pre-Test

- Printing the contents of a list of unknown length
- Reading data from a file
- Anytime the loop might not run at all

➤ Post-Test

- Login Prompt (keeps re-prompting on failure)
- Taking unknown number of user responses
- Anytime you know the loop has to run once, but could run any number of times more than that

Questions?



Let's Try It!

- Test some loops statements
- Create a basic page *InClass-WhileLoops.php*
 - Set up a variable *\$rows* to fetch its value from “*rows*” in GET (*\$_GET['rows']*)
 - Make an ordered list *rows* in length with each list item being your name
 - Upload and test with multiple values
- Raise your hand if you have finished (or if you are stuck)
 - Which loop did you choose? Try it again with the other

For Loop

➤ The for loop is a specialized while loop

```
$x = 0;
```

```
while( $x < 10 ) {  
    echo "$x<br>";
```

```
    $x = $x + 1;  
}
```

```
for( $x = 0, $x < 10, $x = $x + 1 ) {  
    echo "$x<br>";  
}
```

The diagram illustrates the execution flow of a for loop. A red arrow points to the opening parenthesis of the for loop. Another red arrow points to the first part of the loop header, `$x = 0`. A third red arrow points to the second part, `$x < 10`. A fourth red arrow points to the third part, `$x = $x + 1`. A fifth red arrow points to the opening curly brace of the loop body. A sixth red arrow points to the closing curly brace of the loop body. A red arrow also points to the closing parenthesis of the for loop. A red arrow points to the `echo` statement inside the loop body.

Which Loop to Choose

➤ Pre-Test

- Printing the contents of a list of unknown length
- Reading data from a file
- Anytime the loop might not run at all

➤ Post-Test

- Login Prompt (keeps re-prompting on failure)
- Taking unknown number of user responses
- Anytime you know the loop has to run once, but could run any number of times more than that

➤ For Loop

- Making tables or lists
- Reading lists of known length
- Anytime you know EXACTLY how many times the loop should run when it starts

Questions?



Let's Try It!

- Test a for loop statements
- Create a basic page *InClass-ForLoop.php*
 - Set up a variable *\$rows* to fetch its value from “*rows*” in GET (*\$_GET['rows']*)
 - Make a table *rows* in length with each cell containing its number
 - Upload and test with multiple values
- Raise your hand if you have finished (or if you are stuck)

Tracing Loops

```
for($x = 0; $x < 10; $x++) {  
    echo $x.' ';  
}
```

Tracing Loops

```
$j = 2;  
for($x = 0; $x < 10; $x += $j) {  
    echo $x., '.$j.0';  
}
```

Tracing Loops

```
for($x = 0; $x < 3; $x++) {  
    for($y = 0; $y < 3; $y++) {  
        echo "($x, $y)<br>";  
    }  
}
```

(0, 0)

(0, 1)

(0, 2)

(1, 0)

(1, 1)

(1, 2)

(2, 0)

(2, 1)

(2, 2)

~~x~~
~~0~~

1

2

3

~~y~~
~~0~~

1
2
3
0

1
2
3
0

1
2
3

2
3

Nested Loops

- One loop is entirely inside of another
 - For each iteration of the outside loop, the inside loop does a complete set of iterations

```
$loops = 0;
for($i = 0; $i < 3; $i++) {
    $loops++;
}

for($j = 0; $j < 2; $j++) {
    $loops++;
}

echo $loops;
```

```
$loops = 0;
for($i = 0; $i < 3; $i++) {
    for($j = 0; $j < 2; $j++) {
        $loops++;
    }
}

echo $loops;
```

Build a Table with Nested Loops

```
<table>
<?php
    for($rows = 0; $rows < 5; $rows++) {
        echo "\t<tr>\n";
        for($cols = 0; $cols < 3; $cols++) {
            echo "\t\t<td>($rows, $cols)</td>\n";
        }
        echo "\t<\tr>\n";
    }
?>
</table>
```

Let's Try It!

- Make an HTML table dynamically
- Create a basic page *InClass-ForTable.php*
 - Set up a variables *\$rows* and *\$cols* to fetch its value from “*rows*” and “*cols*” in GET (*\$_GET['rows']* and *\$_GET['cols']*)
 - Make a table *rows* in length and *cols* in height
 - Give the table a visible border
 - Count the cells up from 1
 - Upload and test with multiple row and column counts
- Raise your hand if you have finished (or if you are stuck)

Next Lecture

➤ Arrays

