1. PHP

2. The `echo` Statement

3. Variables

4. Operators

5. Decision Structures
Outline

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PHP

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- So, what does the first P stand for?
- PHP code is placed in a PHP file...
- ...or it can be embedded in an HTML file.
- When the client requests a file containing PHP code, the server
  - Executes the PHP code.
  - Sends the output of the PHP code to the client.
- Typically, the output of the PHP program is HTML code and Javascript code.
Client has browser; server has PHP code and database
Client requests HTML file
PHP code sends query to database
Database returns results
PHP code outputs HTML code
HTML code sent to client
PHP code is opened by `<?php` and is closed by `?>`.

```
<?php
    PHP_code
?>
```
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The **echo** Statement

```
echo expression;
```

- The **echo** statement will output the value of an expression.
For example, the above code will output Hello, world!
Strings and Quotation Marks

```php
<?php
    echo "Hello, 'world!'";
    echo 'Hello, "world!"';
?>
```

- Strings may be delimited by either single quotes (‘) or double quotes (").
- Single quotes may be embedded within double quotes, and vice versa.
- The above code will output Hello, ‘world!’ and Hello, "world!"
The **echo** Statement

**Concatenation**

```php
echo "Hello," . " world!";
```

- The dot (.) is the string concatenation operator.
- The above code will output
  
  ```plaintext
  Hello, world!
  ```
Mixing PHP and HTML can be ugly, but it works.
The Extended `echo` Statement

```php
echo <<<HTML
long section of text
HTML;
```

- Sometimes we want to echo very long string.
- We may use whatever delimiter we like. I suggest HTML because this form is used typically to output HTML code.
- Terminating delimiter `must` begin in column 1 and there must be `nothing else` on that line.
- This is better than writing `many` `echo` statements.
The Extended `echo` Statement

```php
echo <<<HTML
<html>
<head>
<title>My Web page</title>
<style>
   h1 {text-align: center; color: olive;}
</style>
<body>
HTML;
```
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Assignment Statements and Data Types

$x = "Hello"; // String type
$x = 44 + 55; // Integer type
$x = $x . " bottles of beer on the wall"; // What type?
echo $x;

- Variable names being with $.
- A variable’s type can change.
- A variable’s current type is determined by its current value.
- When the value changes, the type may change.
Variables Within Strings

```php
$x = 44 + 55;
echo "$x bottles of beer on the wall";
echo '$x bottles of beer on the wall';
```

- What will the above code produce?
PHP operators

- The assignment operator: =
- Numerical operators: +, -, *, /, %, ++, --
- String operators: .
- Comparison operators: ==, !=, <, >, <=, >=, ===, !==

The expression $a === $b is true if $a and $b have the same value and are of the same type.

The expression $a !== $b is true if $a and $b have different values or are of different types.
The most common method of debugging a PHP program is to inspect the values of variables.

echo 'The value of $x is ' . $x . '<br/>';
Use PHP to create a table, with headings, that fills row 1 with the above data.
Example

```php
$fname $lname
```

Example
```
echo <<<HTML
<table border="1">
<tr>
    <th>Name</th><th>SSN</th><th>Birthday</th>
    <th>Salary</th>
</tr>
<tr>
    <td>$fname $lname</td><td>$ssn</td><td>$bdate</td>
    <td>$salary</td>
</tr>
</table>
HTML;
```
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### The if Statement

```php
if (condition)
    true-block;
else
    false-block;
```

- if statements in PHP are just like if statements in C.
- The else part is optional.
- If the block contains more than one statement, then group them using curly braces.
If Statements

Example

```php
$online = value from database;
```

- In the last example, suppose that we have another variable `$online` which is 1 if the person is online and 0 if the person is not online.
- Add one more column to the table named Online. Fill in Yes or No, depending on whether the person is online.
```php
if ($online == 1) {
    echo "<td>Yes</td>";
} else {
    echo "<td>No</td>";
}
```

```html
<table border="1">
<tr>
    <th>Name</th><th>SSN</th><th>Birthday</th>
    <th>Salary</th><th>Online</th>
</tr>
<tr>
    <td>$fname $lname</td><td>$ssn</td><td>$bdate</td>
    <td>$salary</td>
    <td>$online</td>
</tr>
</table>
```
The switch Statement

switch (expression)
{
    case value:
        case-block;
        break;
    :
    default:
        default-block;
        break;
}

switch statements in PHP are just like switch statements in C.