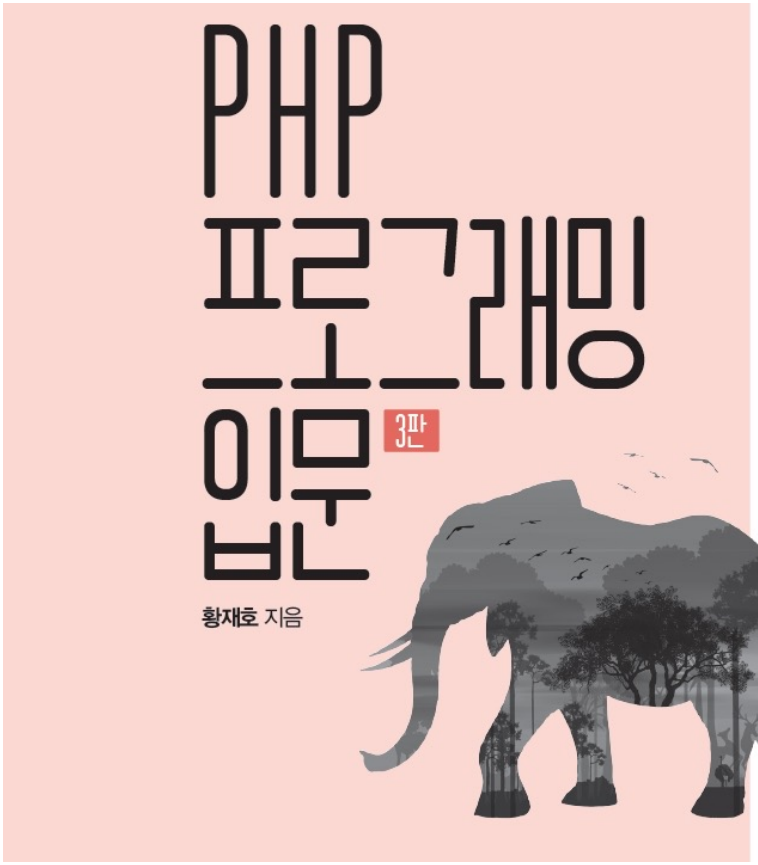


PHP Basic Grammar

[Example 2-1] Printing Sentences on the Screen

```
<?php                          ①
    echo '안녕하세요~~~';       ②
?>                             ③
```

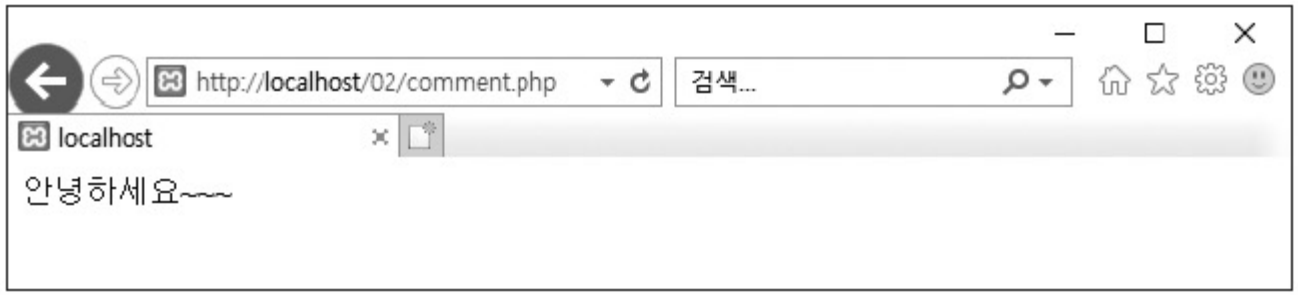
실행 결과

[Tip] If the URL address of your PHP program is http://localhost/02/hello.php, the folder where the hello.php file is located is C:₩xampp₩htdocs₩02.

Using Annotations

```
<?php // <?php는 PHP의 시작을 의미                    ①
    /*    echo문은 문자열을 브라우저                  ②
          화면에 출력합니다.    */
    echo "안녕하세요~~~";
?>
```

실행 결과



03 Constants and variables

① Constant

- A constant value of a given value, such as a string, integer, real number, etc., belongs to a constant.
  - String: One or multiple characters wrapped in double quotation marks
  - Integer: A number consisting of positive, 0, or negative numbers, such as 1000, 30, -203, -25, 0
  - Real: Any number with a decimal value, such as 2.3, 3.3, -128.0, -3.141592

② Variable

- The concept is that the content changes depending on the value you enter, which is the opposite of a constant.
- In PHP, variables start with $, and variable names are written with a combination of lowercase letters, numbers, and underscores (_).
  - e.g) $a, $b, $x, $var, $age, $month, $fee, $bus1, $taxi3

03 Constants and variables

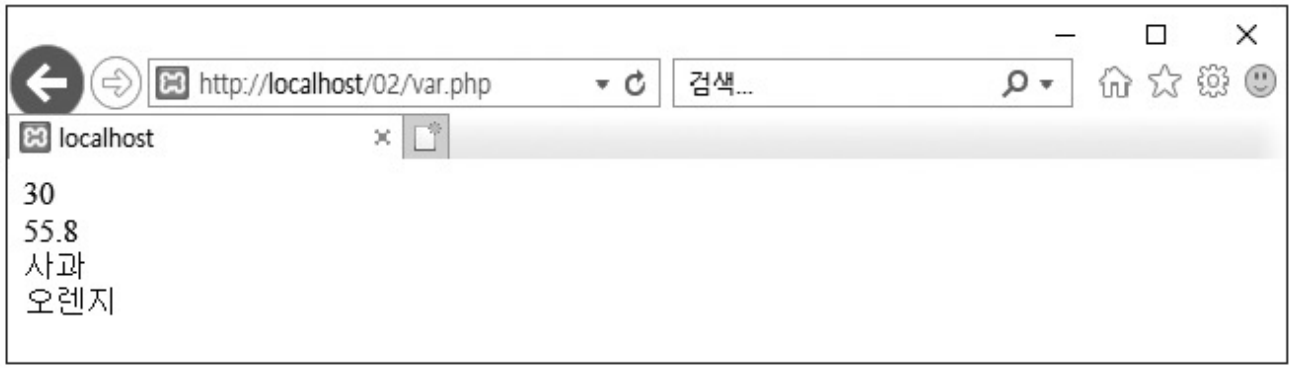
```
<?php
    $a = 10;                    ①
    $b = 20;
    $c = $a + $b;               ②
    echo "$c <br>";             ③

    $a = 18.5;                  ④
    $b = 37.3;
    $c = $a + $b;
    echo "$c <br>";             ⑤

    $fruit = "사과";            ⑥
    echo "$fruit <br>";

    $fruit = "오렌지";          ⑦
    echo "$fruit <br>";
?>
```

실행 결과



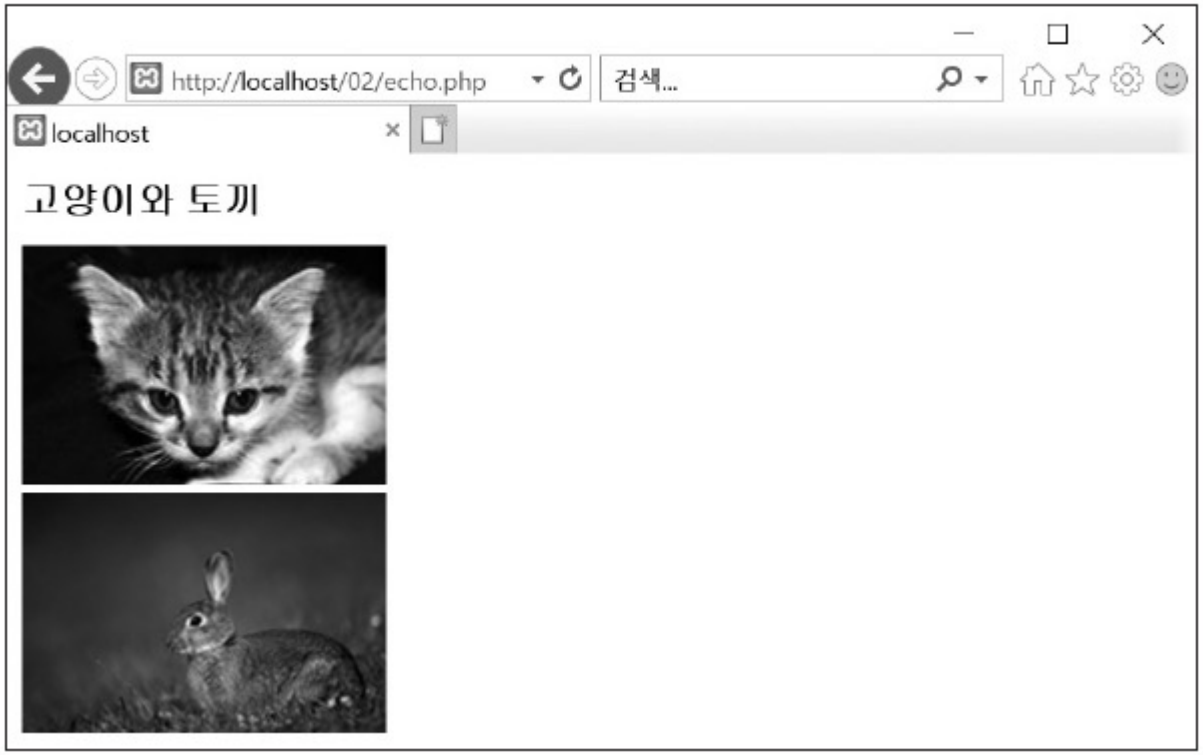
04 echo


```
<!DOCTYPE html>
<html>
<head>
<meta charset = 'utf-8'>                    ①
</head>
<body>
<h3>
<?php
    echo "고양이와 토끼";                    ②
?>
</h3>
<?php
    $filename = "cat.jpg";                  ③
    echo "<img src = '$filename'>";         ④
    echo "<br>";                            ⑤

    $filename = "rabit.jpg";                ⑥
    echo "<img src = '$filename'>";
?>
</body>
</html>
```

04 echo

실행 결과



04 echo

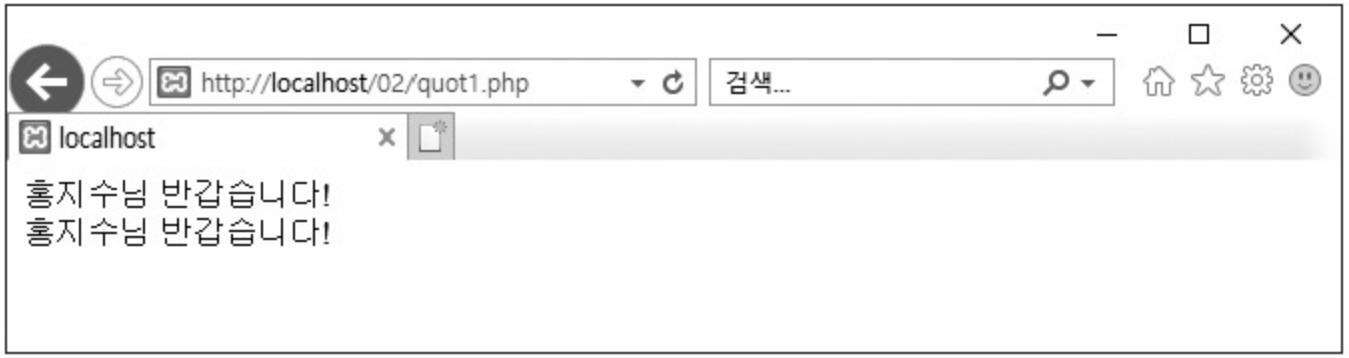
The double and single quotation marks have the same execution result.

```
<?php
    $name = "홍지수";
    echo $name;
    echo "님 반갑습니다!";
    echo "<br>";

    $name = '홍지수';
    echo $name;
    echo '님 반갑습니다!';
?>
```

04 echo

실행 결과


http://localhost/02/quot1.php
검색...
localhost
홍지수님 반갑습니다!
홍지수님 반갑습니다!

04 echo

The double and single quotation marks have different results.

```
<?php
    $name = "홍지수";
    echo "$name 님 반갑습니다!";          ①
    echo "<br>";

    $name = '홍지수';
    echo '$name 님 반갑습니다!';          ②
?>
```

04 echo

실행 결과

(1) The variable $name value in the double quotation marks of the echo statement is output.

(2) If you use the variable $name inside single quotes in the echo statement, the string $name is output.

- To print the value of a variable in an echo statement, you must use double quotation marks.

04 echo

If a variable name and a string are attached in the echo statement

```
<?php
    $name = "안지영";
    echo "$name님 반갑습니다!";
?>
```

실행 결과

- Recognize the variable '$name님' in double quotation marks in the echo statement as a variable name, resulting in an 'Undefined variable' error.

Using curly braces in variable names in echo statements

```
<?php
    $name = "안지영";
    echo "{$name}님 반갑습니다!";
?>
```

실행 결과

- To print a variable name and string in an echo statement, the variable life must be wrapped in curly braces { }.

Using curly braces in variable names in echo statements

```
<?
    php echo "<img src = "cat.jpg">";      ①
?>
```

실행 결과

Using curly braces in variable names in echo statements

(1) If you use another double quotation mark inside a double quotation mark representing a string in the echo statement, PHP interpreters will treat <img src = as a single string, resulting in an error.

- Should be modified as follows:

```
echo "<img src = 'cat.jpg'>";
```

or

```
echo "<img src = \"cat.jpg\">";
```

- ₩" is an escape character.

표 2-1 PHP의 이스케이프 문자

이스케이프 문자	의미
₩"	"(큰따옴표 기호)
₩n	줄 바꿈
₩t	탭
₩₩	\(역슬래시 기호)
₩$	$(달러 기호)

\와 ₩는 동일한 기호이다.

Abbreviated echo statement

```
<?php
    $id = "rubato";                    ①
    $name = '루바토';
?>
<h3>회원정보</h3>
<p>- 아이디 : <?= $id?></p>            ②
<p>- 이름 : <?= $name?></p>
```

실행 결과

(2) <?=$id?> is a shortened version of <?php echo $id?>, and <?=$name?> is a shortened version of <?php echo $name?>.

Using integers and real numbers

```
<?php
    $a = 3769;                    ①
    echo "₩$a : $a";
    echo "<br>";

    $a = 126.7;                   ②
    echo "₩$a : $a";
?>
```

실행 결과

[TIP] In PHP, the data type of a variable is determined by the data type of the value of the variable.

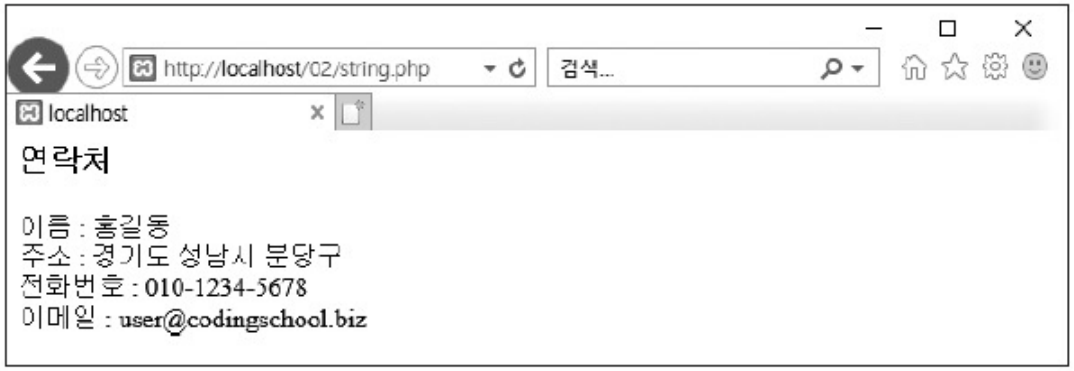
Using Strings

```
<?php
    $title = "<h3>연락처</h3>";                    ①
    $name = "홍길동";                              ②
    $address = "경기도 성남시 분당구";
    $phone = "010-1234-5678";
    $email = "user@codingschool.biz";

    echo $title;                                   ③
    echo "이름 : $name<br>";
    echo "주소 : $address<br>";
    echo "전화번호 : $phone<br>";
    echo "이메일 : $email<br>";
?>
```

Using Strings

실행 결과



문자를 글 제목 형태로 출력하는 HTML 태그 <h3>과 내용을 문자열에 함께 넣어 변수 $title에 저장.

Using the Boolean Data Type

```
<?php
    $a = true;          ①
    $b = false;

    echo $a;            ②
    echo "<br>";
    echo $b;
?>
```

Using the Boolean Data Type

실행 결과

(1) Store true value in $a, false value in $b.

(2) Output the $a and $b to the screen with the echo statement. $a (true) outputs 1, $b (false) outputs nothing. If it has no value, it is called null.

[TIP] On the computer, null means no value. Expressed as "" or null with nothing between double quotation marks. 0 is different from null because it means the integer value 0, and " " with spaces between double quotes is different from null because it represents a space character.

표 2-2 산술 연산자의 종류

산술 연산자	기능	예	결과 값
+	더하기	10 + 20	30
–	빼기	20 – 10	10
*	곱하기	10 + 20 * 30	610
/	나누기	10 / 2	5
%	나머지	7 % 3	1 (7을 3으로 나눈 몫은 2, 나머지는 1)
++	1 증가	$a++	현재 $a 값에서 1 증가
––	1 감소	$a––	현재 $a 값에서 1 감소
**	승수	2**5	2^5

Using arithmetic operators

```
<?php
        $a = 3; // $a에 3 저장
        $b = 5; // $b에 5 저장

        $c = $a + $b;                ①
        $c++;                        ②

        $c = $c + $a;                ③
        $d = $a + $c * $b;           ④

        echo "₩$d : $d" ; // ₩$는 이스케이프 문자로 $ 기호를 브라우저에 출력                ⑤
        echo "<br>"; // <br> 태그는 줄 바꿈

        $a = 10; // $a에 10 저장
        $b = $a % 3;                 ⑥
        $b--;                        ⑦

        $c = $a - $b;                ⑧
        $c = $c - 5;                 ⑨

        echo "₩$c : $c";             ⑩

    ?>
```

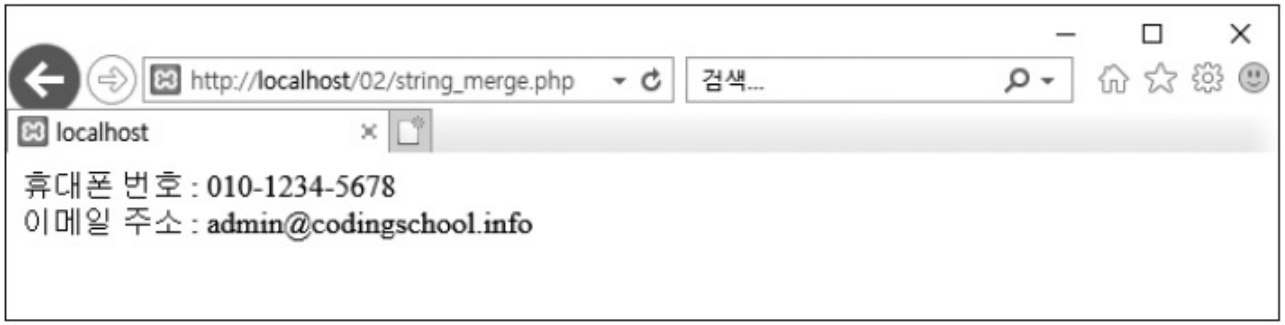
Using the string concatenation operator

```
<?php
    $num1 = "010";
    $num2 = "1234";
    $num3 = "5678";
    $phone_number = $num1."-".$num2."-".$num3;          ①
    echo "휴대폰 번호 : $phone_number"."<br>";

    $email1 = "admin";                                  ②
    $email2 = "codingschool.info";
    $email = $email1."@".$email2;                       ③
    echo "이메일 주소 : $email";                        ④
?>
```

Using the string concatenation operator

실행 결과



Use the string concatenation operator . to make $num 1, $num 2, and $num 3 stored in three variables into a single string. $phone_number stores the string 010-1234-5678.

Using the string concatenation operator

표 2-3 문자열 연산자

문자열 연산자	예	설명
.	$a.$b	문자열 $a와 문자열 $b를 연결하여 하나의 문자열로 만듦

NOTE 정수 1234와 문자열 "1234"

- 1234: 정수 1234는 실제 컴퓨터에서 십진수 1234를 이진수로 변환한 값인 100110100100이다.
- "1234": 문자열 "1234"는 문자인 1의 이진 코드 00110001, 2의 이진 코드 00110010, 3의 이진 코드 00110011, 4의 이진 코드 00110100이 하나로 합쳐진 값인 001100010011001000110011001101000이다.

즉 컴퓨터에서 정수 1234와 문자열 "1234"는 전혀 다른 값을 나타낸다.