

PRN :- 2241032

Practical 2

Title: Write a program to find largest among three numbers using ternary operator.

- a. Write a program to print the sum of digits of a given number (using a while loop).
- b. Write a program to print Fibonacci series up to a given number.

Objective : Illustrate the use of ternary operator.

Theory:

Ternary operator:

The ternary operator (?:) is a conditional operator used to perform a simple comparison or check on a condition having simple statements. It decreases the length of the code performing conditional operations. The order of operation of this operator is from left to right. It is called a ternary operator because it takes three operands- a condition, a result statement for true, and a result statement for false.

Syntax:

(Condition) ? (Statement1) : (Statement2);

Where ,

Condition : It is the expression to be evaluated and returns a Boolean value. Statement 1: It is the statement to be executed if the condition results in a true state.

Statement 2: It is the statement to be executed if the condition results in a false state.

Code:

```
<?php

$num1 = (int)readline("Enter 1st number : ");
$num2 = (int)readline("Enter 2nd number : ");
$num3 = (int)readline("Enter 3rd number : ");

$largest = ($num1 > $num2) ? ($num1 > $num3 ? $num1 : $num3) : ($num2 > $num3 ? $num2 : $num3);
echo "\n Largest number is : ".$largest."\n";
?>
```

Output:

```
PS C:\Users\DELL\Desktop\C1g programs\PHP\programs> php "c:\Users\DELL\Desktop\C1g programs\PHP\programs\p2.php"
Enter 1st number : 10
Enter 2nd number : 24
Enter 3rd number : 32

Largest number is : 32
```

Title: a. Write a program to print the sum of digits of a given number (using a while loop).

Objective:

Illustrate the use of While loop

Theory:

While loop:

while loops are the simplest type of loop in PHP. They behave just like their C counterparts.

The basic form of a while statement is:

```
while (expr)  
statement
```

The meaning of a while statement is simple. It tells PHP to execute the nested statement(s) repeatedly, as long as the while expression evaluates to TRUE. The value of the expression is checked each time at the beginning of the loop, so even if this value changes during the execution of the nested statement(s), execution will not stop until the end of the iteration (each time PHP runs the statements in the loop is one iteration). Sometimes, if the while expression evaluates to FALSE from the very beginning, the nested statement(s) won't even be run once. Like with the if statement, you can group multiple statements within the same while loop by surrounding a group of statements with curly braces, or by using the alternate syntax:

```
while (expr):  
statement  
...  
endwhile;
```

Logic:

- Take the number.

- Divide the number by 10.
- Add the remainder to a variable.
- Repeat the process until the remainder is 0.

Code:

```
<?php

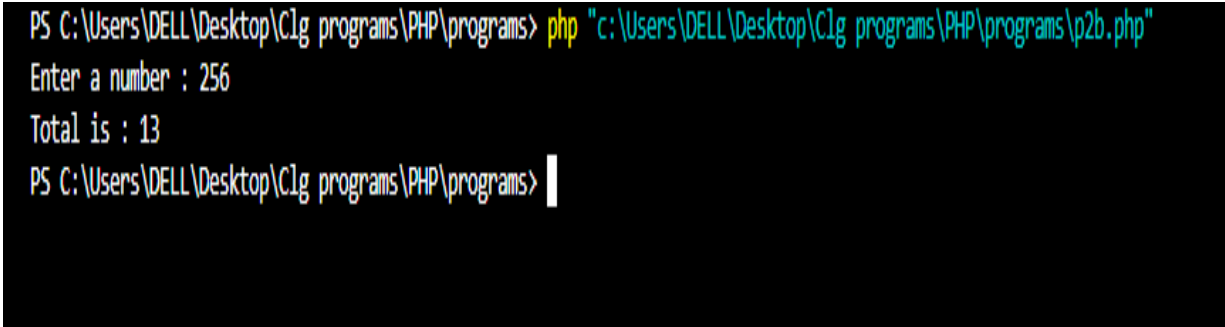
$number = (int)readline("Enter a number : ");
$digit = 0;
$addition = 0;

while($number > 0){
    $digit = $number % 10;
    $number = intdiv($number, 10); // Use integer division
    $addition = $addition + $digit;
}

echo "Total is : ".$addition."\n";

?>
```

Output:



```
PS C:\Users\DELL\Desktop\C1g programs\PHP\programs> php "c:\Users\DELL\Desktop\C1g programs\PHP\programs\p2b.php"
Enter a number : 256
Total is : 13
PS C:\Users\DELL\Desktop\C1g programs\PHP\programs> |
```

Title: b. Write a program to print Fibonacci series upto a given number.

Objective: Illustrate the use of for loop

Theory:

In mathematics, the Fibonacci numbers or Fibonacci series or Fibonacci sequence are the numbers in the following integer sequence:

0 1 1 2 3 5 8 13 21

By definition, the first two numbers in the Fibonacci sequence are 0 and 1, and each subsequent number is the sum of the previous two.

In mathematical terms, the sequence F_n of Fibonacci numbers is defined by the recurrence relation

$$F_{\{n\}} = F_{\{n-1\}} + F_{\{n-2\}},$$

with seed values[3]

$$F_0 = 0, F_1 = 1.$$

The Fibonacci sequence is named after Leonardo of Pisa, who was known as Fibonacci.

Logic:

- Initializing the first and second number as 0 and 1.
- Print the first and second number.
- From next number, start your loop. So third number will be the sum of the first two numbers.

Code:

```
<?php

$num = (int)readline("Enter the number :");
$first = 0;
$second = 1;
$fib = 0;

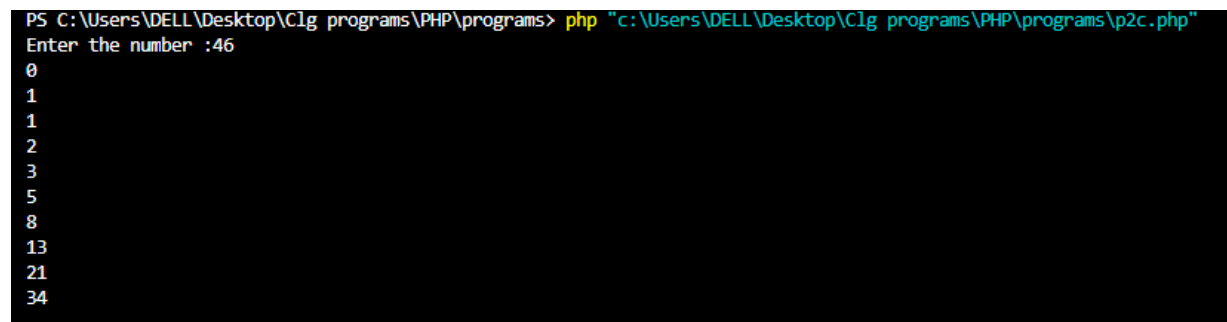
echo $first . "\n" . $second;
echo "\n";

while($fib < $num) {
    $fib = $first + $second;
    $first = $second;
    $second = $fib;

    if($fib <= $num) {
        echo $fib . "\n";
    }
}

echo "\n";

?>
```

Output:

```
PS C:\Users\DELL\Desktop\Clg programs\PHP\programs> php "c:\Users\DELL\Desktop\Clg programs\PHP\programs\p2c.php"
Enter the number :46
0
1
1
2
3
5
8
13
21
34
```

Conclusion:

Hence completed the following programs using various concepts of PHP:

1. A program to find the largest among three numbers using the ternary operator.
2. A program to print the sum of digits of a given number (using while loop).
3. A program to print Fibonacci series up to a given number.

