

PHP Lab#2

Objective

- How to build PHP arrays and associative array
- Looping through array and associative array
- How to process array of arrays
- How to use some built-in array functions
- Defining Your Own PHP Functions
- Programming in Multiple Files

Note: The output of your PHP code should be in HTML table format.

Q1) Write a PHP code that builds an array of the first 100 prime numbers. Then

1. Print out the sum of these primes and their average
2. Print out positions of primes that contains digit 3

Answer:

Remark: the built-in function `strpos((string)7431, "3")` returns the position of "3" in the string "7431" which is 2.

Important Notation:

The return value of `strpos((string)7431, "7")` is 0, while the return value of `strpos((string)7431, "9")` is false which may be casted to 0 in some cases. Therefore to test the existence of a digit (or substring), we use `strpos((string)$ArrPrims[$i], "3") !== false` (not use `!=false`).

```
<?php
function testPrime($x){
    if($x<2)return false;
    if($x==2||$x==3)return true;
    for($i=2;$i<=sqrt($x);$i++){
        if($x%$i==0)return false;
    }
    return true;
}

$ArrPrims = array();
$ArrPrims[0]=2;
$NumOfPrimes=1;

$x=3;
while($NumOfPrimes<=100){
    if(testPrime($x)) {
        $ArrPrims[]=$x;
        $NumOfPrimes++;
    }
    $x+=2;
}
```

```

    }
    $sumOfPrimes=0;
    for($i=0;$i<count($ArrPrims);$i++)
        $sumOfPrimes+=$ArrPrims[$i];
    ?>
    <table border=1 align=center width =400>
<tr><td>sum of primes </td> <td> <?php echo $sumOfPrimes;?></td></tr>
</table> </br>

<?php
$Positions=array();
for($i=0;$i<count($ArrPrims);$i++){
    if(strpos((string)$ArrPrims[$i],"3")!=false)
        $Positions[]=$i;
}
?>
    <table border=1 align=center width =400>
    <tr> <td> prime </td> <td> position </td> </tr>

    <?php for($i=0;$i<count($Positions);$i++) {?>
        <tr>
            <td> <?php echo $ArrPrims[$Positions[$i]];?> </td>
            <td> <?php echo $Positions[$i];?> </td>
        </tr>
    <?php }?>
</table> </br>

```

Q3) Build an array of strings and contains names of your friends. Then,

1- Find all names contains the substring "he"

```

<?php
$MyStudent = array("Ahmed Ali", "Hessien Sayed", "Tafida
Hemat","Tawfek Hemada","Saher Osman");
?>
    <table border=1 align=center width =400>
        <tr> <td> Names </td> </tr>

        <?php foreach($MyStudent as $key=>$value){
            if(strpos(strtoupper($value),"HE")!=false){
                ?>
                <tr> <td> <?php echo $value;?> </td> </tr>
            <?php }
        } ?>
    </table> </br>

```

2- Display names of your friends where the name with word Ahmed colored with blue.

```

<table border=1 align=center width =400>
    <tr> <td> Names </td> </tr>

```

```

<?php foreach($MyStudent as $key=>$value){
    if( strpos(strtoupper($value),"AHMED")!=false){
?>
        <tr> <td> <font color='blue'> <?php echo $value;?>
            </font> </td> </tr>

<?php }
    else {?>
        <tr> <td> <?php echo $value;?> </td> </tr>
<?php }
    }?>

</table> </br>

```

Q4) Write a PHP that builds a tow dimensional array M of size (10 × 10). The code will fill each location in M by its index summation (M[i][j]= i+j). Then print the summation of the elements located at the circumference.

```

<?php
    $sum=0;
    $matrix =array();
    for($i=0;$i<10;$i++){
        for($j=0;$j<10;$j++){
            $matrix[$i][$j]=$i+$j;
            $sum+= $i==0||$i==9?$matrix[$i][$j]:0;
        }
        $sum+= $i!=0 && $i!=9? $matrix[$i][0] + $matrix[$i][9]:0;
    }
?>

<table border=1 align=center width =400>
    <tr> <td> The summation </td> </tr>
    <tr> <td> <?php echo $sum ;?></td> </tr>
</table> </br>

```