Practical – 3

Aim: Perform following programs of PHP Array & it's inbuilt function.

1.Write a PHP program to find out maximum and minimum number from an array

Code:

```php
<?php
    echo "21012011074<br><br>";
    $n = 10;
    $arr = [];
    for($i=0;$i<$n;$i++){
        $arr[$i] = rand(1,50);
    }
    // let max = arr[0];
    foreach($arr as $temp){
        echo "$temp ";
    }
    echo "<br>";
    function maxAndMin(&$arr,$n){
        $max = $arr[0];
        $min = $arr[0];
        for($i=1;$i<$n;$i++){
            if($arr[$i]>$max){
                $max = $arr[$i];
            }
            if($arr[$i]<$min){
```

```
            $min = $arr[$i];

         }

      }
      echo "The maxiumum element: ",$max,"<br>";

      echo "The minimum element: ",$min;

   }
   echo "<br> Without using inbuilt function: ";

   maxAndMin($arr,$n);


   echo "<br><br>Using inbuilt functions: ";

   echo "Maximum Element: ",max($arr),"<br>";

   echo "Minimum Element: ",min($arr);

?>
```

Output:

21012011074

17 44 41 19 41 29 36 2 2 9

Without using inbuilt function: The maxiumum element: 44
The minimum element: 2

Using inbuilt functions: Maximum Element: 44
Minimum Element: 2

2.Write a PHP program to reverse an array.

   Code:

```
<?php
   echo "21012011074<br><br>";

   $n = 10;
```

```php
$arr = [];
for($i=0;$i<$n;$i++){
    $arr[$i] = rand(1,50);
}
echo "Before reverse: ";
foreach($arr as $temp){
    echo "$temp, ";
}
echo "<br>";
function swap(&$arr,$start,$end){
    $temp = $arr[$start];
    $arr[$start] = $arr[$end];
    $arr[$end] = $temp;
}
function reverse(&$arr,$n){
    $start=0;
    $end = $n-1;
    while($start<=$end){
        swap($arr,$start,$end);
        $start++;
        $end--;
    }
}
reverse($arr,$n);
echo "<br>Without inbuilt function: ";
foreach($arr as $temp){
    echo "$temp, ";
}


echo "<br>Using inbuilt function: ";
```

```php
    array_reverse($arr);

    foreach($arr as $temp){

        echo "$temp, ";

    }
?>
```

Output:

21012011074

Before reverse: 49, 11, 3, 34, 15, 8, 49, 40, 8, 50,

Without inbuilt function: 50, 8, 40, 49, 8, 15, 34, 3, 11, 49,
Using inbuilt function: 50, 8, 40, 49, 8, 15, 34, 3, 11, 49,

3.Write a PHP program to merge two arrays

Code:

```php
<?php
    echo "21012011074<br><br>";

    $n = 10;

    $arr = [];

    $arr1 = [];

    $arr2 = [];

    for($i=0;$i<$n;$i++){

        $arr[$i] = rand(1,50);

        $arr1[$i] = rand(1,30);

        $arr2[$i] = rand(1,20);

    }
    echo "Array1: <br>";

    foreach($arr as $temp){

        echo "$temp, ";

    }
```

```php
    echo "<br>Array2: <br>";

    foreach($arr1 as $temp){

        echo "$temp, ";

    }

    echo "<br>Array3: <br>";

    foreach($arr2 as $temp){

        echo "$temp, ";

    }

    echo "<br><br>Merged Array wihout using function: <br>";

    function mergeTwoArrays(&$arr,&$arr1,$n){

        for($i=0;$i<$n;$i++){

            $arr[$n+$i] = $arr1[$i];

        }

        foreach($arr as $temp){

            echo "$temp, ";

        }

    }

    mergeTwoArrays($arr,$arr1,$n);


    echo "<br><br>Merged Array Using inbuilt function: <br>";

    $arr2 = array_merge($arr1,$arr2);

    foreach($arr2 as $temp){

        echo "$temp, ";

    }

?>
```

Output:

```
21012011074

Array1:
25, 23, 41, 14, 18, 28, 43, 43, 9, 43,
Array2:
9, 11, 18, 30, 23, 15, 14, 7, 10, 18,
Array3:
14, 5, 8, 17, 11, 11, 5, 9, 20, 4,

Merged Array wihout using function:
25, 23, 41, 14, 18, 28, 43, 43, 9, 43, 9, 11, 18, 30, 23, 15, 14, 7, 10, 18,

Merged Array Using inbuilt function:
9, 11, 18, 30, 23, 15, 14, 7, 10, 18, 14, 5, 8, 17, 11, 11, 5, 9, 20, 4,
```

4. Write a PHP program to sort an array.

Code:

```php
<?php
  echo "21012011074<br><br>";
  $n = 10;
  $arr1 = [];
  $arr2 = [];
  for($i=0;$i<$n;$i++){
    $arr1[$i] = rand(1,50);
  }
  for($i=0;$i<$n;$i++){
    $arr2[$i] = rand(1,50);
  }
  echo "Before Sorting arr1: ";
  foreach($arr1 as $temp){
    echo "$temp, ";
  }
  echo "<br>Before Sorting arr2: ";
  foreach($arr2 as $temp){
    echo "$temp, ";
```

```php
    }
  echo "<br>";
  function insertionSort(&$arr,$n){
     for($i=0;$i<$n;$i++){
        $j = $i;
        while($j>0 && $arr[$j-1]>$arr[$j]){
           $temp = $arr[$j];
           $arr[$j] = $arr[$j-1];
           $arr[$j-1] = $temp;
           $j--;
        }
     }
  }
  echo "<br>Sorting Arr1 without inbuilt function: ";
  insertionSort($arr1,$n);
  foreach($arr1 as $temp){
     echo "$temp, ";
  }


  echo "<br>Sorting Arr2 with inbuilt function: ";
  sort($arr2);
  foreach($arr2 as $temp){
     echo "$temp, ";
  }
?>
```

Output:

```
21012011074

Before Sorting arr1: 18, 19, 10, 40, 9, 33, 35, 47, 20, 45,
Before Sorting arr2: 18, 32, 19, 49, 29, 33, 10, 37, 8, 30,

Sorting Arr1 without inbuilt function: 9, 10, 18, 19, 20, 33, 35, 40, 45, 47,
Sorting Arr2 with inbuilt function: 8, 10, 18, 19, 29, 30, 32, 33, 37, 49,
```

5. Write a PHP program to search element from an array

Code:

```php
<?php
   echo "21012011074<br><br>";
   $n = 10;
   $arr1 = [];
   for($i=0;$i<$n;$i++){
      $arr1[$i] = rand(1,20);
   }
   echo "Array: ";
   foreach($arr1 as $temp){
      echo "$temp, ";
   }
   echo "<br>";
   function searchElement($arr,$n,$element){
      for($i=0;$i<$n;$i++){
         if($arr[$i]==$element){
            return $i;
         }
      }
      return -1;
   }
   $element = 14;
```

```php
    $index = searchElement($arr1,$n,$element);

    if($index==-1){

        echo "Element not found";

    }else{

        echo "Firstly Element found at index: $index";

    }

    $frequency = 0;

    for($i=0;$i<$n;$i++){

        if($arr1[$i]==$element){

            $frequency++;

        }

    }

    echo "<br>Frequency of $element: $frequency";

?>
```

Output:

```
21012011074

Array: 7, 7, 2, 15, 5, 6, 14, 6, 10, 5,
Firstly Element found at index: 6
Frequency of 14: 1
```

6.Write a PHP program to remove duplicate values from an array.

Code:

```php
<?php
    echo "21012011074<br><br>";

    $n = 10;

    $arr1 = [];

    $arr2 = [];

    for($i=0;$i<$n;$i++){

        $arr1[$i] = rand(1,20);
```

```php
  }
  for($i=0;$i<$n;$i++){
     $arr2[$i] = rand(1,20);
  }
  echo "Array1: ";
  foreach($arr1 as $temp){
     echo "$temp, ";
  }
  echo "<br>Array2: ";
  foreach($arr2 as $temp){
     echo "$temp, ";
  }
  echo "<br>";
  function removeDuplicates(&$arr,$n){
     $temp = [];
     $j = 0;
     for($i=0;$i<$n;$i++){
        if(!in_array($arr[$i],$temp)){
           $temp[$j] = $arr[$i];
           $j++;
        }
     }
     $arr = $temp;
  }
  removeDuplicates($arr1,$n);
  echo "<br>Array after removing duplicates without inbuit function: ";
  foreach($arr1 as $temp){
```

```
      echo "$temp, ";

   }


   echo "<br>Array after removing duplicates with inbuit function: ";

   $arr2 = array_unique($arr2);

   foreach($arr2 as $temp){

      echo "$temp, ";

   }
?>
```

Output:

> 21012011074
>
> Array1: 17, 7, 19, 15, 10, 17, 6, 10, 10, 8,
> Array2: 19, 14, 18, 5, 4, 13, 8, 13, 10, 14,
>
> Array after removing duplicates without inbuit function: 17, 7, 19, 15, 10, 6, 8,
> Array after removing duplicates with inbuit function: 19, 14, 18, 5, 4, 13, 8, 10,