Object Oriented Programming Lab

(CS 32203)

Assignment - 3

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1.Java Program to copy all elements of one array into another array

PROGRAM:

```
import java.util.Scanner;


public class ArrayCopy {
   public static void main(String[] args) {
      Scanner sc = new Scanner(System.in);
      System.out.println("Enter size of array: ");
      int size = sc.nextInt();
      int[] array = new int[size];
      for (int i=0; i<size; i++)
         array[i] = sc.nextInt();
```

```
        int[] res = new int[size];

        for (int i=0; i<size; i++)
            res[i] = array[i];

        System.out.println("Array 1:");
        for (int value : array)
            System.out.print(value + " ");

        System.out.println();
        System.out.println("Array 2:");
        for (int value : res)
            System.out.print(value + " ");
    }
}
```

OUTPUT:

```
Enter size of array:
5
5 2 3 7 4
Array 1:
5 2 3 7 4
Array 2:
5 2 3 7 4
Process finished with exit code 0
```

2.Java Program to find the frequency of each element in the array

PROGRAM:

```
import java.util.Scanner;


public class ArrayFrequency {
   public static void main(String[] args) {
      Scanner sc = new Scanner(System.in);
      System.out.println("Enter size of array: ");
      int size = sc.nextInt();
      int[] array = new int[size];
      for (int i=0; i<size; i++)
         array[i] = sc.nextInt();



      for (int i = 0; i < size-1; i++) {


         for (int j = i+1; j<size; j++){
            if (array[i] > array[j]){
               int temp = array[i];
               array[i] = array[j];
               array[j] = temp;
            }
         }
```

```
        }

        int count = 1;

        for (int i=1; i<size; i++){
           if (array[i] == array[i-1]){
              count++;
           }else{
              System.out.println("Frequency of "+array[i-1]+ " is
: "+count);
              count=1;
           }

           if(i==(size-1) ){
              System.out.println("Frequency of "+array[i]+ " is :
"+count);
           }
        }
     }
}
```

OUTPUT:

```
"C:\Program Files\Java\jdk1.8.0_301\bin\java.exe" ...
Enter size of array:
8
4 3 8 1 4 6 5 4
Frequency of 1 is : 1
Frequency of 3 is : 1
Frequency of 4 is : 3
Frequency of 5 is : 1
Frequency of 6 is : 1
Frequency of 8 is : 1

Process finished with exit code 0
```

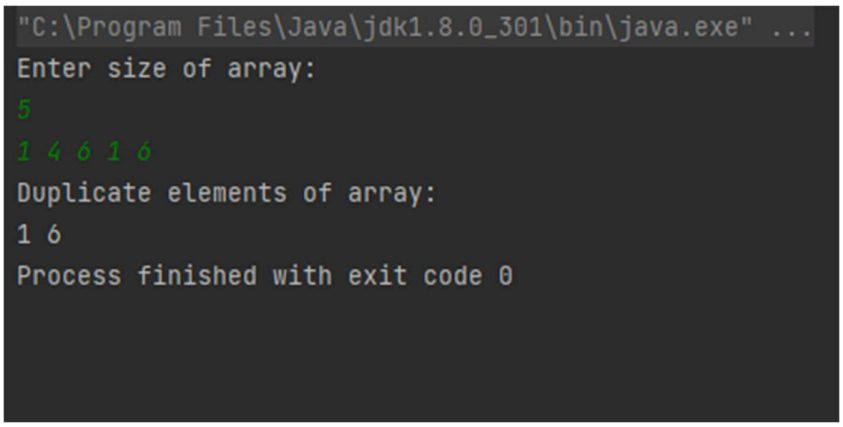
3.Java Program to print the duplicate elements of an array

PROGRAM:

```
import java.util.Scanner;


public class DuplicateElements {
   public static void main(String[] args) {
      Scanner sc = new Scanner(System.in);
      System.out.println("Enter size of array: ");
      int size = sc.nextInt();
      int[] array = new int[size];

      for (int i=0; i <size; i++){
         array[i] = sc.nextInt();
      }

      for (int i = 0; i < size-1; i++) {
```

```
        for (int j = i+1; j<size; j++){
            if (array[i] > array[j]){
                int temp = array[i];
                array[i] = array[j];
                array[j] = temp;
            }
        }
    }

    System.out.println("Duplicate elements of array: ");
    for (int i=1; i<size; i++){
        if(array[i] == array[i-1])
            System.out.print(array[i]+ " ");
    }
  }
}
```

OUTPUT:



4.Java Program to print the elements of an array

PROGRAM:

```
import java.util.Scanner;


public class ArrayElements {
   public static void main(String[] args) {
      Scanner sc = new Scanner(System.in);
      System.out.println("Enter size of array: ");
      int size = sc.nextInt();
      int[] array = new int[size];
      for (int i=0; i <size; i++){
         array[i] = sc.nextInt();
      }
      System.out.println("Array elements : ");
      for (int value : array)
         System.out.print(value+" ");
   }
}
```

OUTPUT:

```
"C:\Program Files\Java\jdk1.8.0_301\bin\java.exe" ...
Enter size of array:
5
2 6 5 3 5
Array elements :
2 6 5 3 5
Process finished with exit code 0
```

5.Java Program to print the elements of an array in reverse order

PROGRAM:

```
import java.util.Scanner;


public class ArrayReverse {
   public static void main(String[] args) {
      Scanner sc = new Scanner(System.in);
      System.out.println("Enter size of array: ");
      int size = sc.nextInt();
      int[] array = new int[size];

      for (int i=0; i <size; i++){
         array[i] = sc.nextInt();
      }
      System.out.println("Array elements in reverse order:
");

      for (int i=size-1; i>=0; i--)
         System.out.print(array[i]+ " ");
   }
}
```

OUTPUT:

```
"C:\Program Files\Java\jdk1.8.0_301\bin\java.exe" ...
Enter size of array:
5
5 3 8 3 1
Array elements in reverse order:
1 3 8 3 5
Process finished with exit code 0
```

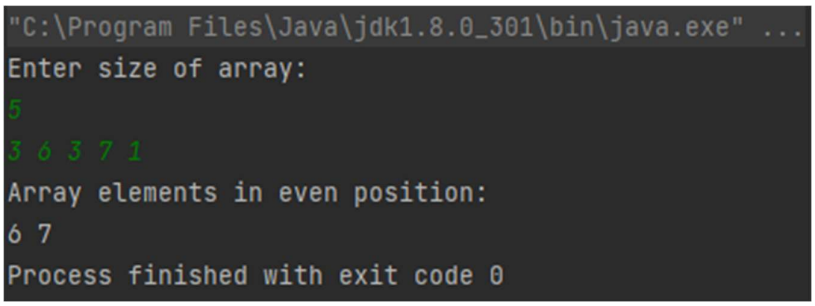
6.Java Program to print the elements of an array present on even position

PROGRAM:

```
import java.util.Scanner;


public class ArrayEven {
   public static void main(String[] args) {
      Scanner sc = new Scanner(System.in);
      System.out.println("Enter size of array: ");
      int size = sc.nextInt();
      int[] array = new int[size];


      for (int i=0; i <size; i++){
         array[i] = sc.nextInt();
      }
      System.out.println("Array elements in even position:
");
```

```
        for (int i=1; i<size; i=i+2)
            System.out.print(array[i]+ " ");

    }
}
```

OUTPUT:



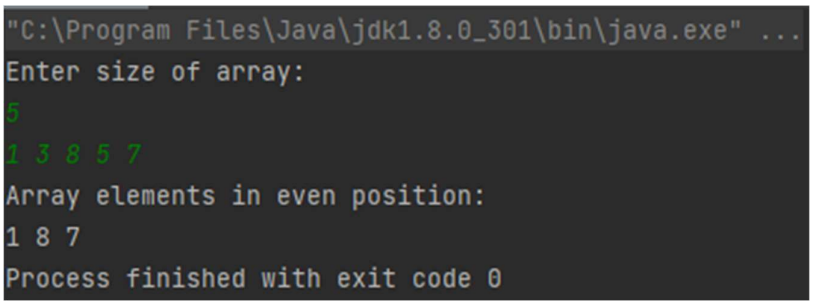
7.Java Program to print the elements of an array present on odd position

PROGRAM:

```
import java.util.Scanner;


public class ArrayOdd {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter size of array: ");
        int size = sc.nextInt();
        int[] array = new int[size];


        for (int i=0; i <size; i++){
```

```
            array[i] = sc.nextInt();
        }
        System.out.println("Array elements in even position:
");


        for (int i=0; i<size; i=i+2)
            System.out.print(array[i]+ " ");
    }
}
```

OUTPUT:



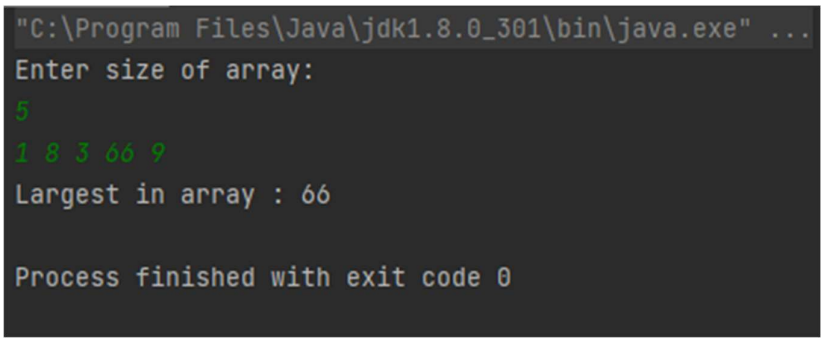
8.Java Program to print the largest element in an array

PROGRAM:

```
import java.util.Scanner;


public class ArrayLarge {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter size of array: ");
        int size = sc.nextInt();
```

```
        int[] array = new int[size];


        for (int i=0; i <size; i++){
            array[i] = sc.nextInt();
        }
        int max=Integer.MIN_VALUE;


        for (int value : array)
            if (max<value)
                max=value;


        System.out.println("Largest in array : "+max);
    }
}
```

OUTPUT:

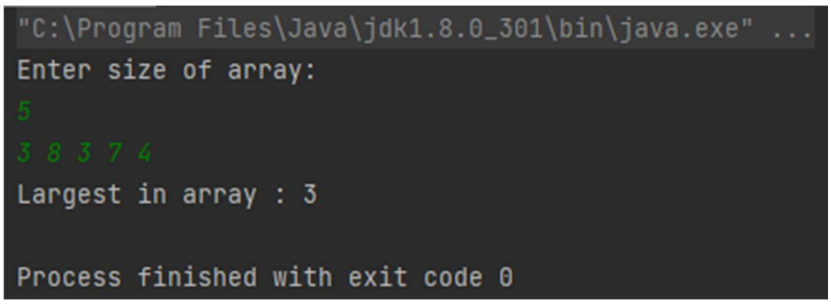


9.Java Program to print the smallest element in an array

PROGRAM:

```
import java.util.Scanner;

public class ArrayMin {
   public static void main(String[] args) {
      Scanner sc = new Scanner(System.in);
      System.out.println("Enter size of array: ");
      int size = sc.nextInt();
      int[] array = new int[size];

      for (int i=0; i <size; i++){
         array[i] = sc.nextInt();
      }
      int min=Integer.MAX_VALUE;

      for (int value : array)
         if (min>value)
            min=value;

      System.out.println("Largest in array : "+min);
   }
}
```

OUTPUT:



10.Java Program to print the number of elements present in an array

PROGRAM:

```
import java.util.Scanner;


public class ArrayCount {
   public static void main(String[] args) {
      Scanner sc = new Scanner(System.in);
      System.out.println("Enter size of array: ");
      int size = sc.nextInt();
      int[] array = new int[size];
      for (int i=0; i <size; i++){
         array[i] = sc.nextInt();
      }
      System.out.println("Size of array is : "+array.length);
   }
}
```

OUTPUT:

```
"C:\Program Files\Java\jdk1.8.0_301\bin\java.exe" ...
Enter size of array:
5
1  8 5 3 6
Size of array is : 5

Process finished with exit code 0
```

11.Java Program to print the sum of all the items of the array

PROGRAM:

```
import java.util.Scanner;


public class ArraySum {
   public static void main(String[] args) {
      Scanner sc = new Scanner(System.in);
      System.out.println("Enter size of array: ");
      int size = sc.nextInt();
      int[] array = new int[size];


      for (int i=0; i <size; i++){
         array[i] = sc.nextInt();
      }


      int sum=0;
      for (int value : array)
```

```
            sum+=value;


            System.out.println("Sum of array is : "+sum);
        }
    }
```

OUTPUT: