Assignment – 1

1. Write a java program to find the maximum & minimum element in an array.

Source Code

```
import java.util.Scanner;

class MaxMin {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        System.out.print("Enter how many element you want: ");
        int size = sc.nextInt();
        int[] arr = new int[size];

        System.out.print("Enter the space separated array elements: ");
        for (int i = 0; i < size; i++)
            arr[i] = sc.nextInt();

        int max = Integer.MIN_VALUE, min = Integer.MAX_VALUE;

        for (int i = 0; i < size; i++) {
            if (arr[i] > max)
                max = arr[i];
            if (arr[i] < min)
                min = arr[i];
        }

        System.out.println("Max: " + max);
        System.out.println("Min: " + min);
        sc.close();
    }
```

Output

```
user@AnitDesktop MINGW64 /g/My Works/B.Tech-IT/OOPs/java_ass (main)
$  javac MaxMin.java
user@AnitDesktop MINGW64 /g/My Works/B.Tech-IT/OOPs/java_ass (main)
$  java MaxMin

Enter how many elements you want: 5
Enter the space separated array elements: 2 4 1 6 7
Max: 7
Min: 1
```

2. Implement a java program to reverse an array.

Source Code

```
import java.util.Scanner;

class RevArray {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        System.out.print("Enter how many element you want: ");
        int n = sc.nextInt();
        int[] arr = new int[n];

        System.out.print("Enter the space separated array elements: ");
        for (int i = 0; i < n; i++)
            arr[i] = sc.nextInt();

        System.out.print("Reversed array: ");

        for (int i = 0; i < n / 2; i++) {
            int temp = arr[i];
            arr[i] = arr[n - i - 1];
            arr[n - i - 1] = temp;
        }

        for (int i = 0; i < n; i++)
            System.out.print(arr[i] + " ");

        sc.close();
    }
}
```

Output

```
user@AnitDesktop MINGW64 /g/My Works/B.Tech-IT/OOPs/java_ass (main)
$  javac RevArray.java
user@AnitDesktop MINGW64 /g/My Works/B.Tech-IT/OOPs/java_ass (main)
$  java RevArray

Enter how many element you want: 5
Enter the space separated array elements: 1 2 3 4 5
Reversed array: 5 4 3 2 1
```

3. Write a java program to check an array is palindrome or not.

Source Code

```
import java.util.Scanner;

class PalindromeArr {
   public static void main(String[] args) {
      Scanner sc = new Scanner(System.in);

      System.out.print("Enter how many element you want: ");
      int n = sc.nextInt();
      int[] arr = new int[n];

      System.out.print("Enter the space separated array elements: ");
      for (int i = 0; i < n; i++)
         arr[i] = sc.nextInt();

      boolean isPalindrome = true;

      for (int i = 0; i < n / 2; i++) {
         if (arr[i] != arr[n - i - 1]) {
            isPalindrome = false;
            break;
         }
      }

      if (isPalindrome)
         System.out.println("Array is palindrome");
      else
         System.out.println("Array is not palindrome");

      sc.close();
   }
}
```

Output

```
user@AnitDesktop MINGW64 /g/My Works/B.Tech-IT/OOPs/java_ass (main)
$ javac PalindromeArr.java
user@AnitDesktop MINGW64 /g/My Works/B.Tech-IT/OOPs/java_ass (main)
$ java PalindromeArr
Enter how many element you want: 4
Enter the space separated array elements: 1 2 2 1
Array is palindrome
user@AnitDesktop MINGW64 /g/My Works/B.Tech-IT/OOPs/java_ass (main)
$ java PalindromeArr
Enter how many element you want: 4
Enter the space separated array elements: 1 2 3 1
Array is not palindrome
```

4. Write a java program Array Index Access Using Switch Case in Java.

Source Code

```
import java.util.Scanner;

class Switch {
   public static void main(String[] args) {
      Scanner sc = new Scanner(System.in);

      int[] arr = { 1, 2, 3, 4, 5 };
      int choice;

      System.out.print("Enter any choice : ");
      switch (choice = sc.nextInt()) {
         case 0:
            System.out.println("Value is:" + arr[choice]);
            break;
         case 1:
            System.out.println("Value is:" + arr[choice]);
            break;
         case 2:
            System.out.println("Value is:" + arr[choice]);
            break;
         case 3:
            System.out.println("Value is:" + arr[choice]);
            break;
         case 4:
            System.out.println("Value is:" + arr[choice]);
            break;
         case 5:
            System.out.println("Value is:" + arr[choice]);
            break;

         default:
            System.out.println("Value is: " + arr[choice]);
            break;
      }

      sc.close();
   }
}
```

Output

```
user@AnitDesktop MINGW64 /g/My Works/B.Tech-IT/OOPs/java_ass (main)
$ javac Switch.java
user@AnitDesktop MINGW64 /g/My Works/B.Tech-IT/OOPs/java_ass (main)
$ java Switch
Enter any choice: 3
Value is: 4
```