WORKSHEET – 1

1. Write a java program to print.

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Sol:

```
public class TrianglePattern {
    public static void main(String[] args) {
        int rows = 4; // Number of rows for the triangle

        for (int i = 1; i <= rows; i++) { // Loop through each row
            for (int j = 1; j <= i; j++) { // Print asterisks in each row
                System.out.print("*");
            }
            System.out.println(); // Move to the next line after each row
        }
    }
}
```

2. Write a java Program to Swap Two Numbers.

Sol:

```
import java.util.Scanner;
public class SwapNumbers {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

 // Input first number
        System.out.print("Enter the first number: ");
        int firstNumber = scanner.nextInt();

        // Input second number
        System.out.print("Enter the second number: ");
        int secondNumber = scanner.nextInt();

        System.out.println("Before swapping:");
        System.out.println("First number: " + firstNumber);
        System.out.println("Second number: " + secondNumber);

        // Swap the numbers using a temporary variable
        int temp = firstNumber;
        firstNumber = secondNumber;
        secondNumber = temp;

        System.out.println("After swapping:");
        System.out.println("First number: " + firstNumber);
        System.out.println("Second number: " + secondNumber);

        scanner.close();
    }
}
```

3. Write a java Program to Find Sum of Fibonacci Series Number.

Sol:

```
import java.util.Scanner;
public class FibonacciSum {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        // Input the number of terms
        System.out.print("Enter the number of terms: ");
        int n = scanner.nextInt();

        int first = 0, second = 1;
        int sum = first + second;

        // Print the first two terms
        System.out.print("Fibonacci Series: " + first + " " + second);

        // Loop to generate and print the Fibonacci series and calculate the sum
        for (int i = 3; i <= n; i++) {
            int next = first + second;
            System.out.print(" " + next);
            sum += next;
            first = second;
            second = next;
        }
 System.out.println("\nSum of the first " + n + " Fibonacci numbers: " + sum);
 scanner.close();
    }
 }
```

4. Write a Java Program to Find the Largest Element in Array

Sol:

```
import java.util.Scanner;

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

        // Input the size of the array
        System.out.print("Enter the number of elements in the array: ");
        int n = scanner.nextInt();

        // Initialize the array
        int[] array = new int[n];

        // Input the elements of the array
        System.out.println("Enter the elements of the array: ");
        for (int i = 0; i < n; i++) {
            array[i] = scanner.nextInt();
        }

        // Initialize the largest element to the first element of the array
        int largest = array[0];

        // Loop through the array to find the largest element
        for (int i = 1; i < n; i++) {
            if (array[i] > largest) {
                largest = array[i];
            }
        }
```

```
        // Output the largest element
        System.out.println("The largest element in the array is: " + largest);

        scanner.close();
    }
}
```

5. Java Array Program to Remove Duplicate Elements From an Array

Sol: // Java Program to Remove Duplicate Elements

// From the Array using extra space

```
public class Main {
    public static int removeduplicates(int a[], int n)
      {
            if (n == 0 || n == 1) {
                  return n;
            }

            // creating another array for only storing
            // the unique elements
            int[] temp = new int[n];
            int j = 0;

            for (int i = 0; i < n - 1; i++) {
                  if (a[i] != a[i + 1]) {
                        temp[j++] = a[i];
                  }
            }

            temp[j++] = a[n - 1];

            // Changing the original array
            for (int i = 0; i < j; i++) {
                  a[i] = temp[i];
            }
```

```
        return j;
    }
    public static void main(String[] args)
    {
        int a[] = { 1, 1, 2, 2, 2 };
        int n = a.length;

        n = removeduplicates(a, n);

        // Printing The array elements
        for (int i = 0; i < n; i++)
            System.out.print(a[i] + " ");
    }
}
```