Worksheet Set 1

Q1.

```
public class pattern {
   public static void main(String[] args) {
      int n = 4; // Number of rows
      for (int i = 1; i <= n; i++) {
         for (int j = 1; j <= i; j++) {
            System.out.print("*");
         }
         System.out.println();
      }
   }
}
```

Q2.

```
import java.util.Scanner;

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

      System.out.print("Enter the first number: ");
      int num1 = scanner.nextInt();

      System.out.print("Enter the second number: ");
      int num2 = scanner.nextInt();

      // Swapping the numbers using a temporary variable
      int temp = num1;
      num1 = num2;
      num2 = temp;

      System.out.println("After swapping:");
      System.out.println("First number = " + num1);
      System.out.println("Second number = " + num2);
   }
}
```

Q3.

```
import java.util.Scanner;
```

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

        System.out.print("Enter the number of terms in the Fibonacci series: ");
        int n = scanner.nextInt();

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

        System.out.println("Fibonacci series:");
        System.out.print(first + " " + second);

        for (int i = 3; i <= n; i++) {
            next = first + second;
            System.out.print(" " + next);
            sum += next;
            first = second;
            second = next;
        }

        System.out.println();
        System.out.println("Sum of the first " + n + " Fibonacci series numbers: " + sum);
    }
}
```

Q4.

```java
public class LargestElementInArray {
    public static void main(String[] args) {
        // Predefined array
        int[] array = {5, 3, 9, 1, 6, 7, 8, 2, 4};

        int largest = array[0];
        for (int i = 1; i < array.length; i++) {
            if (array[i] > largest) {
                largest = array[i];
            }
        }

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

Q5.

```java
import java.util.Arrays;

public class RemoveDuplicatesFromArray {
    public static void main(String[] args) {
        // Predefined array with duplicates
        int[] array = { 4, 5, 9, 4, 2, 3, 5, 7, 8, 9 };

        // Sorting the array
        Arrays.sort(array);

        // Removing duplicates
        int[] tempArray = new int[array.length];
        int j = 0;

        for (int i = 0; i < array.length - 1; i++) {
            if (array[i] != array[i + 1]) {
                tempArray[j++] = array[i];
            }
        }

        // Adding the last element
        tempArray[j++] = array[array.length - 1];

        // Creating the new array without duplicates
        int[] newArray = new int[j];
        for (int i = 0; i < j; i++) {
            newArray[i] = tempArray[i];
        }

        // Printing the new array
        System.out.println("Array without duplicates:");
        for (int i : newArray) {
            System.out.print(i + " ");
        }
    }
}
```