1. JAVA

A. Create an array with the values (1, 2, 3, 4, 5, 6, 7) and shuffle it.

Program:

```
import java.util.*;

public class ArrayShuffle {

    public static void main(String[] args) {

        List<Integer> list = new ArrayList<>();

        list.add(1);

        list.add(2);

        list.add(3);

        list.add(4);

        list.add(5);

        list.add(6);

        list.add(7);

        Collections.shuffle(list);

        System.out.println("Shuffled array: " + list);

    }

}
```

Output:

```
java -cp /tmp/GAUxIpMYuy ArrayShuffle
Shuffled array: [2, 5, 1, 6, 3, 4, 7]
```

B. Enter a Roman Number as input and convert it to an integer. (ex IX = 9)

Program:

```
import java.util.*;
public class RomanToInteger {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a Roman numeral: ");
        String romanNumeral = scanner.nextLine();
        int result = 0;
        HashMap<Character, Integer> romanValues = new HashMap<>();
        romanValues.put('I', 1);
        romanValues.put('V', 5);
        romanValues.put('X', 10);
        romanValues.put('L', 50);
        romanValues.put('C', 100);
        romanValues.put('D', 500);
        romanValues.put('M', 1000);
        int prevValue = 0;
        for (int i = romanNumeral.length() - 1; i >= 0; i--) {
            int currentValue = romanValues.get(romanNumeral.charAt(i));
            if (currentValue < prevValue) {
                result -= currentValue;
            } else {
                result += currentValue;
            }
            prevValue = currentValue;
```

```
        }
        System.out.println("Integer equivalent of " + romanNumeral + " is " + result);
        scanner.close();
    }
}
```

Output:

```
java -cp /tmp/GAUxIpMYuy RomanToInteger
Enter a Roman numeral: IX
Integer equivalent of IX is 9
```

C. Check if the input is pangram or not. (Pangram is a sentence that contains all the alphabet from a-z)

Program:

```
import java.util.*;
public class PangramChecker {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a sentence: ");
        String input = scanner.nextLine();
        scanner.close();
        if (isPangram(input)) {
            System.out.println("The input is a pangram.");
        } else {
            System.out.println("The input is not a pangram.");
        }
    }
    public static boolean isPangram(String input) {
        input = input.replaceAll("[^a-zA-Z]", "").toLowerCase();
```

```
        HashSet<Character> alphabetSet = new HashSet<>();
        for (char c : input.toCharArray()) {
            alphabetSet.add(c);
        }
        return alphabetSet.size() == 26;
    }
}
```

Output:

```
java -cp /tmp/GAUxIpMYuy PangramChecker
Enter a sentence: helloworld
The input is not a pangram.
```