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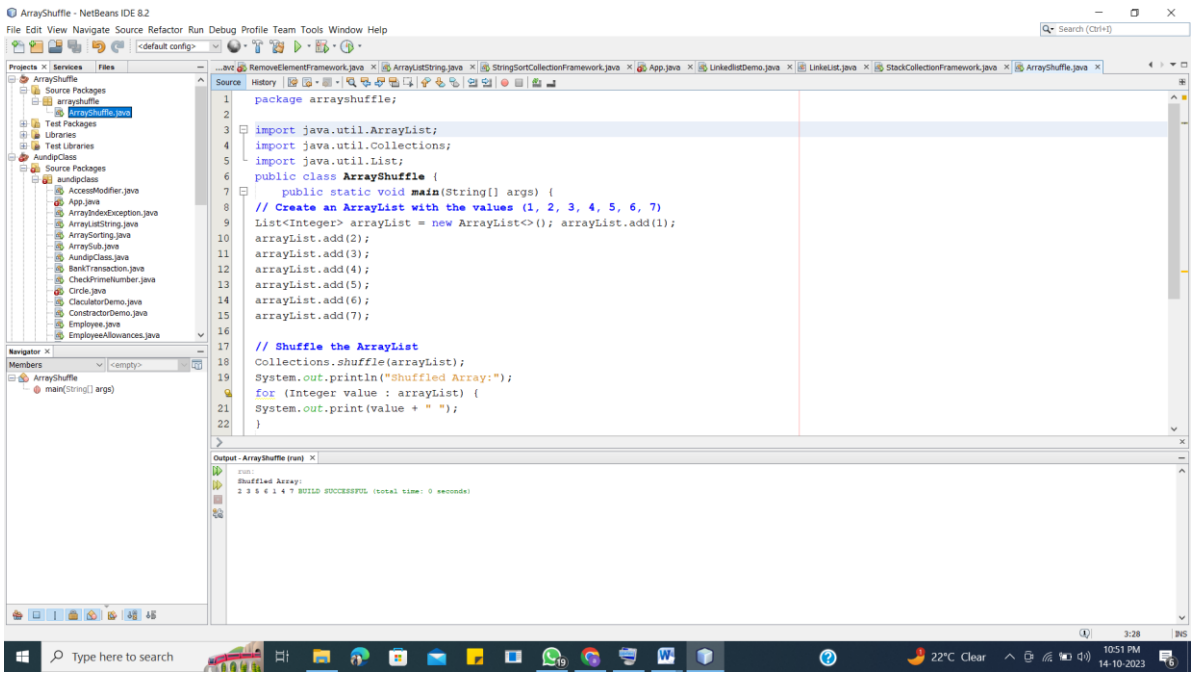
Passing Year: 2023
CGPA:8.63
College: DY Patil College Of Engineering,Akurdi(DYPCOE)
Programming Language : Java Programming

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

```
import java.util.ArrayList;
import java.util.Collections;
import java.util.List;

public class ShuffleArray {
    public static void main(String[] args) {
        // Create an ArrayList with the values (1, 2, 3, 4, 5, 6, 7)
        List<Integer> arrayList = new ArrayList<>();
        arrayList.add(1);
        arrayList.add(2);
        arrayList.add(3);
        arrayList.add(4);
        arrayList.add(5);
        arrayList.add(6);
        arrayList.add(7);

        // Shuffle the ArrayList
        Collections.shuffle(arrayList);
        System.out.println("Shuffled Array:");
        for (Integer value : arrayList) {
            System.out.print(value + " ");
        }
    }
}
```

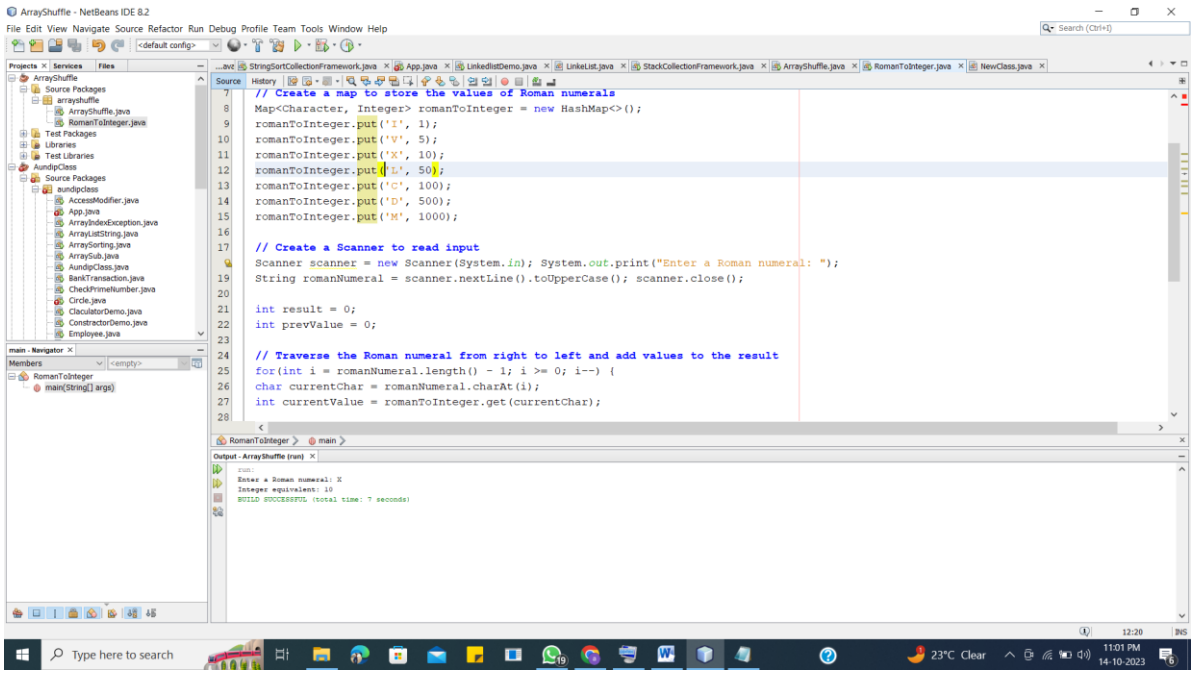
OutPut:



2. Enter a Roman Number as input and convert it to an integer. (Example: IX = 9)

```
import java.util.HashMap;
import java.util.Map;
import java.util.Scanner;

public class RomanToInteger {
    public static void main(String[] args) {
        // Create a map to store the values of Roman numerals
        Map<Character, Integer> romanToInteger = new HashMap<>();
        romanToInteger.put('I', 1);
        romanToInteger.put('V', 5);
        romanToInteger.put('X', 10);
        romanToInteger.put('L', 50);
        romanToInteger.put('C', 100);
        romanToInteger.put('D', 500);
        romanToInteger.put('M', 1000);

        // Create a Scanner to read input
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a Roman numeral: ");
        String romanNumeral = scanner.nextLine().toUpperCase();
        scanner.close();

        int result = 0;
        int prevValue = 0;

        // Traverse the Roman numeral from right to left and add values to the result
        for (int i = romanNumeral.length() - 1; i >= 0; i--) {
            char currentChar = romanNumeral.charAt(i);
            int currentValue = romanToInteger.get(currentChar);

            if (currentValue < prevValue) {
                result -= currentValue;
            } else {
                result += currentValue;
            }

            prevValue = currentValue;
        }

        System.out.println("Integer equivalent: " + result);
    }
}
```

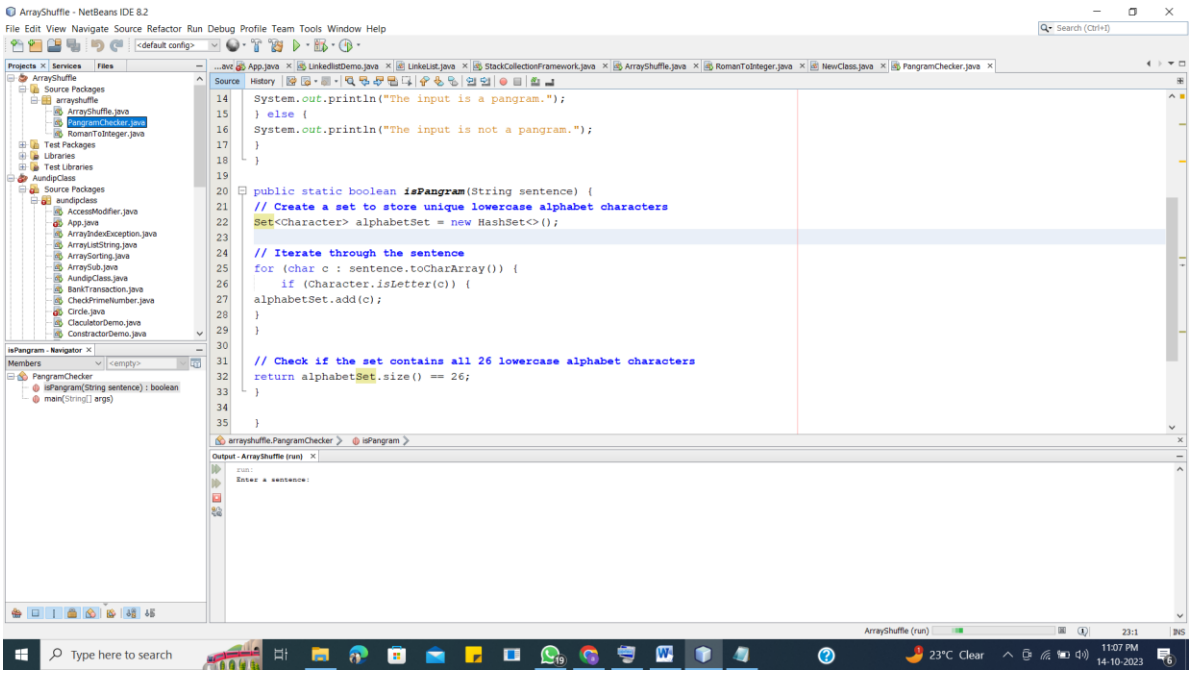
OutPut:


ArrayShuffle - NetBeans IDE 8.2
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
// Create a map to store the values of Roman numerals
Map<Character, Integer> romanToInteger = new HashMap<>();
romanToInteger.put('I', 1);
romanToInteger.put('V', 5);
romanToInteger.put('X', 10);
romanToInteger.put('L', 50);
romanToInteger.put('C', 100);
romanToInteger.put('D', 500);
romanToInteger.put('M', 1000);
// Create a Scanner to read input
Scanner scanner = new Scanner(System.in); System.out.print("Enter a Roman numeral: ");
String romanNumeral = scanner.nextLine().toUpperCase(); scanner.close();
int result = 0;
int prevValue = 0;
// Traverse the Roman numeral from right to left and add values to the result
for(int i = romanNumeral.length() - 1; i >= 0; i--) {
char currentChar = romanNumeral.charAt(i);
int currentValue = romanToInteger.get(currentChar);
Output - ArrayShuffle (run)
run:
Enter a Roman numeral: X
Integer equivalent: 10
BUILD SUCCESSFUL (total time: 7 seconds)
Type here to search
23°C Clear
11:01 PM
14-10-2023

3. Check if the input is pangram or not. (A pangram is a sentence that contains all the alphabets from A to Z)

```
import java.util.HashSet;
import java.util.Scanner;
import java.util.Set;

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().toLowerCase();
        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 sentence) {
        // Create a set to store unique lowercase alphabet characters
        Set<Character> alphabetSet = new HashSet<>();

        // Iterate through the sentence
        for (char c : sentence.toCharArray()) {
            if (Character.isLetter(c)) {
                alphabetSet.add(c);
            }
        }

        // Check if the set contains all 26 lowercase alphabet characters
        return alphabetSet.size() == 26;
    }
}
```

OutPut:


ArrayShuffle - NetBeans IDE 8.2
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
Search (Ctrl+I)
Projects Services Files
ArrayShuffle
Source Packages
arrayshuffle
ArrayShuffle.java
PangramChecker.java
RomanToInteger.java
Test Packages
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Test Libraries
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aundipclass
AccessModifier.java
App.java
ArrayIndexException.java
ArrayListString.java
ArraySorting.java
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BankTransaction.java
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CleculatorDemo.java
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isPangram - Navigator
Members
PangramChecker
isPangram(String sentence) : boolean
main(String[] args)
App.java
LinkedlistDemo.java
LinkeList.java
StackCollectionFramework.java
ArrayShuffle.java
RomanToInteger.java
NewClass.java
PangramChecker.java
Source
History
14 System.out.println("The input is a pangram.");
15 } else {
16 System.out.println("The input is not a pangram.");
17 }
18 }
19
20 public static boolean isPangram(String sentence) {
21 // Create a set to store unique lowercase alphabet characters
22 Set<Character> alphabetSet = new HashSet<>();
23
24 // Iterate through the sentence
25 for (char c : sentence.toCharArray()) {
26 if (Character.isLetter(c)) {
27 alphabetSet.add(c);
28 }
29 }
30
31 // Check if the set contains all 26 lowercase alphabet characters
32 return alphabetSet.size() == 26;
33 }
34
35 }
arrayshuffle.PangramChecker
isPangram
Output - ArrayShuffle (run)
run:
Enter a sentence:
ArrayShuffle (run)
23:1
INS
Type here to search
23°C Clear
11:07 PM
14-10-2023

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