

ASSIGNMENT - II

Course: Programming in Java for
Raspberry pi

Code: CSA0914

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① Reverse a Number

A) program

```
import java.util.Scanner;  
public class ReverseNumber{  
    public static void main(String[] args){  
        Scanner scanner = new Scanner(System.in);  
        System.out.print("Enter a number:");  
        int number = scanner.nextInt();  
        scanner.close();  
        int reversedNumber = 0;  
        int originalNumber = number;  
        while (number != 0) {  
            int digit = number % 10;  
            reversedNumber = reversedNumber * 10 + digit;  
            number /= 10;  
        }  
        System.out.println("Reversed Number: " + reversedNumber);  
    }  
}
```

output

Enter a number: 12345

Reversed number: 54321

②

Armstrong Number

Program

```
import java.util.Scanner;  
public class ArmstrongNumber {  
    public static void main (String [] args) {  
        Scanner Scanner = new Scanner (System.in);  
        int number = Scanner.nextInt();  
        Scanner.close();  
        int originalNumber = number;  
        int SumofCubes = 0;  
        while (number > 0) {  
            int digit = number % 10;  
            SumofCubes += Math.pow (digit, 3);  
            number /= 10;  
        }  
        if (SumofCubes == originalNumber) {  
            System.out.println (originalNumber + " is an Armstrong number");  
        } else {  
            System.out.println (originalNumber + " is not an Armstrong number");  
        }  
    }  
}
```

Output

Enter a number: 153

153 is an Armstrong Number

③ GCD of Two Numbers

Program

```
import java.util.Scanner;  
public class GCD {  
    public static void main (String [] args) {  
        Scanner Scanner = new Scanner (System.in);  
        System.out.print ("Enter the first number:");  
        int a = Scanner.nextInt();  
        System.out.print ("Enter the second number:");  
        int b = Scanner.nextInt();  
        Scanner.close ();  
        int gcd = findGCD (a, b);  
        System.out.println ("GCD is " + gcd);  
    }  
    private static int findGCD (int a, int b) {  
        while (b != 0) {  
            int temp = b;  
            b = a % b;  
            a = temp;  
        }  
        return  
    }  
}
```

output Enter the first number: 12
 Enter the second number: 18
 GCD of two numbers: 6

Merge Two Sorted Arrays

program

```
import java.util.Arrays;  
public class B192211250 {  
    public static int[] merge(int[] arr1, int[] arr2){  
        int[] mergedArray = new  
            int[arr1.length + arr2.length];  
        int i=0, j=0, k=0;  
        while (i < arr1.length && j < arr2.length) {  
            if (arr1[i] < arr2[j]) {  
                mergedArray[k++] = arr1[i++];  
            } else {  
                mergedArray[k++] = arr2[j++];  
            }  
        }  
        while (i < arr1.length) {  
            mergedArray[k++] = arr1[i++];  
        }  
        return mergedArray;  
    }  
    public static void main(String[] args) {  
        int[] arr1 = {1, 3, 5};  
        int[] arr2 = {2, 4, 6};  
        int[] mergedArray = merge(arr1, arr2);  
        System.out.println(Arrays.toString(mergedArray));  
    }  
}
```

output:
Merged list: {1, 2, 3, 4, 5, 6}

⑤ Count the frequency of character in a string

program

```
import java.util.HashMap;
import java.util.Map;
import java.util.Scanner;
public class CharacterFrequencyCounter {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        String input = scanner.nextLine();
        Map<Character, Integer> frequencyMap = new HashMap<>();
        for (char ch: input.toCharArray()) {
            if (frequencyMap.containsKey(ch)) {
                frequencyMap.put(ch, frequencyMap.get(ch)+1);
            } else {
                frequencyMap.put(ch, 1);
            }
        }
        System.out.println("character frequencies:");
        for (Map.Entry<Character, Integer> entry: frequencyMap.entrySet()) {
            System.out.println(entry.getKey() + ":" + entry.getValue());
        }
        scanner.close();
    }
}
```

output:-

Enter a string: hello

Output: h:1, e:1, l:2, o:1