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Subject: CSA0914 Java

Assignment - 2

1. Program 1 : Reverse a number

A) Aim: To write a Java program for Reverse a number.

Program:

```
Public class ReverseNumber{
    Public static void main(String[] args){
        int number = 12345, reversed = 0;
        while(number != 0){
            reversed = reversed * 10 + number % 10;
            number /= 10;
        }
        System.out.println(reversed);
    }
}
```

Output: Reversed number = 54321

Result: The program is successful.

2. Check Armstrong number.

A) Aim: To write a Java program to check Armstrong number

Program:

```
import java.util.Scanner;
Public class ArmstrongChecker{
    public static void main(String[] args){
        Scanner sc = new Scanner(System.in);
        int num = sc.nextInt(), sum = 0, temp = num,
```

```
digits = String.valueOf(num).length();
while (temp>0){
    sum1 = Math.pow(temp%10, digits);
    temp /= 10;
}
System.out.println(num == sum) "Armstrong":
                                "Not Armstrong");
    }
}
```

Output: Enter a number = 153

It is an Armstrong number.

Result: Program is Successful.

Calculate the GCD of two numbers.

Aim: To calculate the GCD of two numbers using Java.

Program:

```
Public class GCD {
    Public static void main(String[] args){
        int a=48, b=18;
        System.out.println(gcd(a, b));
    }
    static int gcd (int a, int b){
        return b==0 ? a : gcd(b, a%b);
    }
}
```

Output :

Result : program is Successful.

4. Merge Two Sorted Arrays.

A) Aim : To Merge two Sorted Arrays using Java

Program :

```
Public class MergeSortedArrays {
    Public Static int[] merge(int[] arr1, int[] arr2) {
        int [] merged = new int [arr1.length + arr2.length];
        int i=0, j=0, k=0;
        while (i<arr1.length && j<arr2.length) {
            merged [k++] = (arr1[i]<arr2[j]) ? arr1[i++]
                                             : arr2[j++];
        }
        while (i<arr1.length) merged [k++] = arr1[i++];
        while (j<arr2.length) merged [k++] = arr2[j++];
        return merged;
    }
}
```

Result. program is Successful.

5. Count the Frequency of Characters in a String.

Aim: To count the frequency of characters in a String

Program :

```
import java.util.HashMap;
Public class CharFrequency {
    Public Static void main(String [] args) {
```

```
String str = "hello world";
HashMap<Character, Integer> freqMap = new HashMap<>();
for(char c : str.toCharArray()) {
    freqMap.put(c, freqMap.getOrDefault(c,0)+1);
}
System.out.println(freqMap);
}
}
```

Result : The program is successful