DAILY ONLINE ACTIVITIES SUMMARY

Date:	**29/05/2020**	**Name:**	**ASHIKA**
Sem & Sec	**6 A**	**USN:**	**4AL17CS016**

Online Test Summary

Subject	**OPERATION RESARCH**		
Max. Marks	**30**	**Score**	**30**

Certification Course Summary

Course	**Ethical hacking**		
Certificate Provider	**Great learning**	**Duration**	**6 hour**

Coding Challenges

Problem Statement:

1. Python program to calculate the number of lowercase and uppercase letters in a string

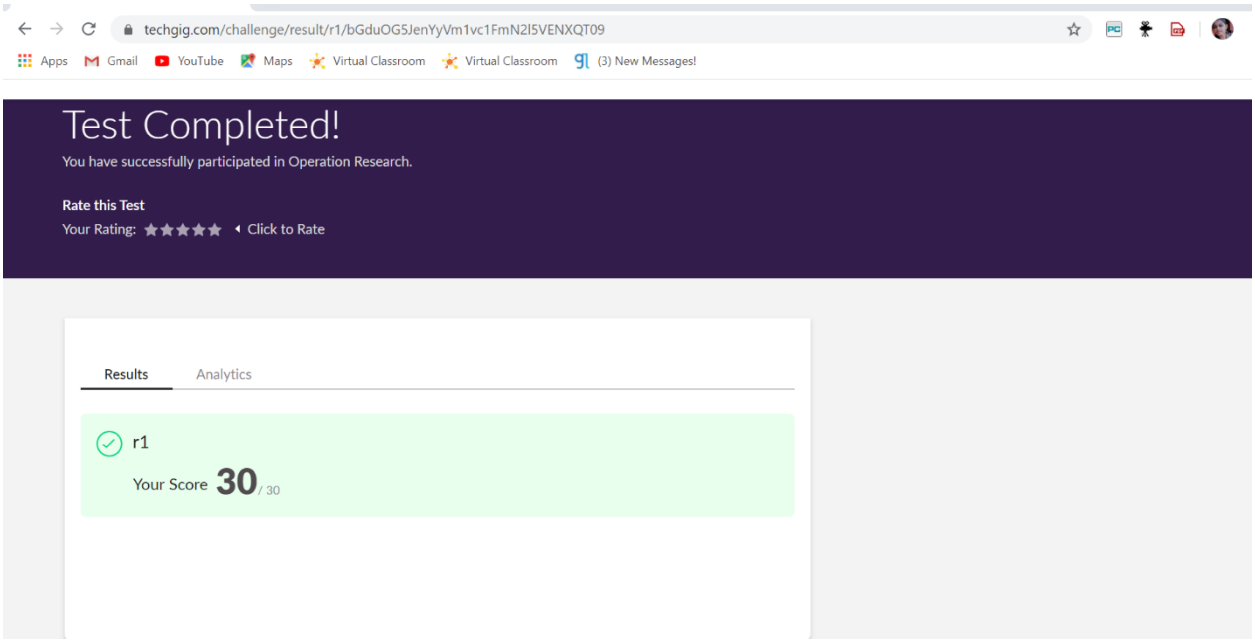
   Description:
   Take a string as input and find the number of uppercase and lower case letters in the string and print the count.
   Note: any spaces has to be ignored
   Eg: string is : 'This is Python'
   Upper case characters : 2
   Lower case characters : 10

2. We are given 3 strings: str1, str2, and str3. Str3 is said to be a shuffle of str1 and str2 if it can be formed by interleaving the characters of str1 and str2 in a way that maintains the left to right ordering of the characters from each string. For example, given str1="abc" and str2="def", str3="dabecf" is a valid shuffle since it preserves the character ordering of the two strings. So, given these 3 strings write a function that detects whether str3 is a valid shuffle of str1 and str2.

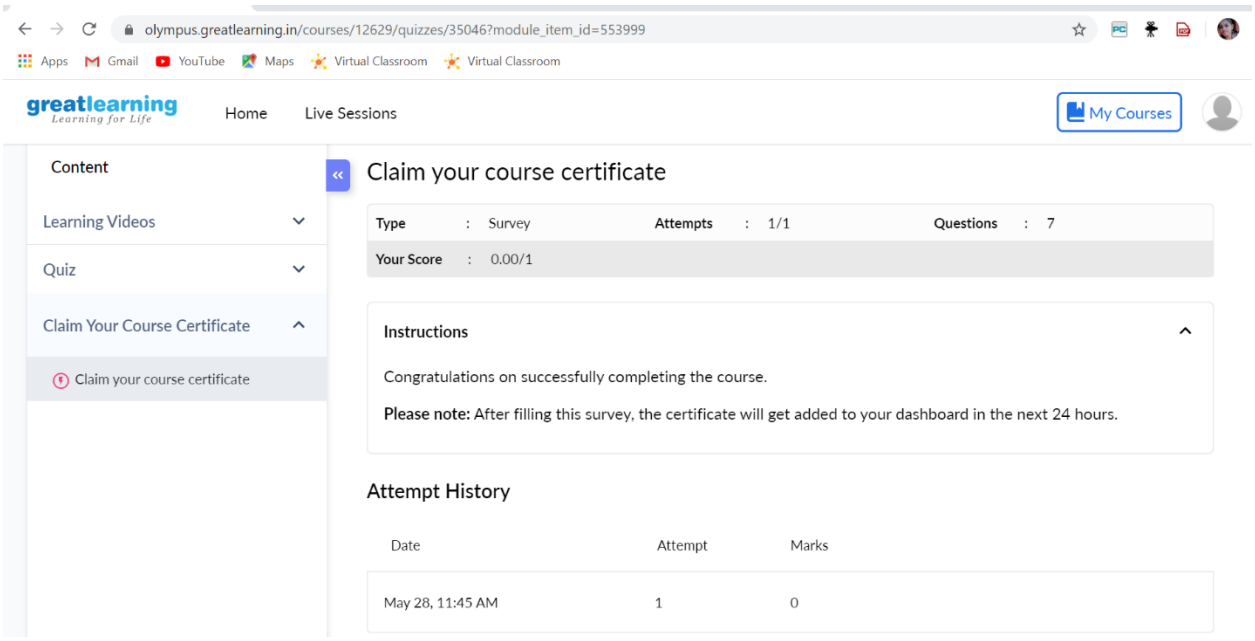
3.Write a c program to solve a system of linear congruences by applying the Chinese Remainder Theorem.

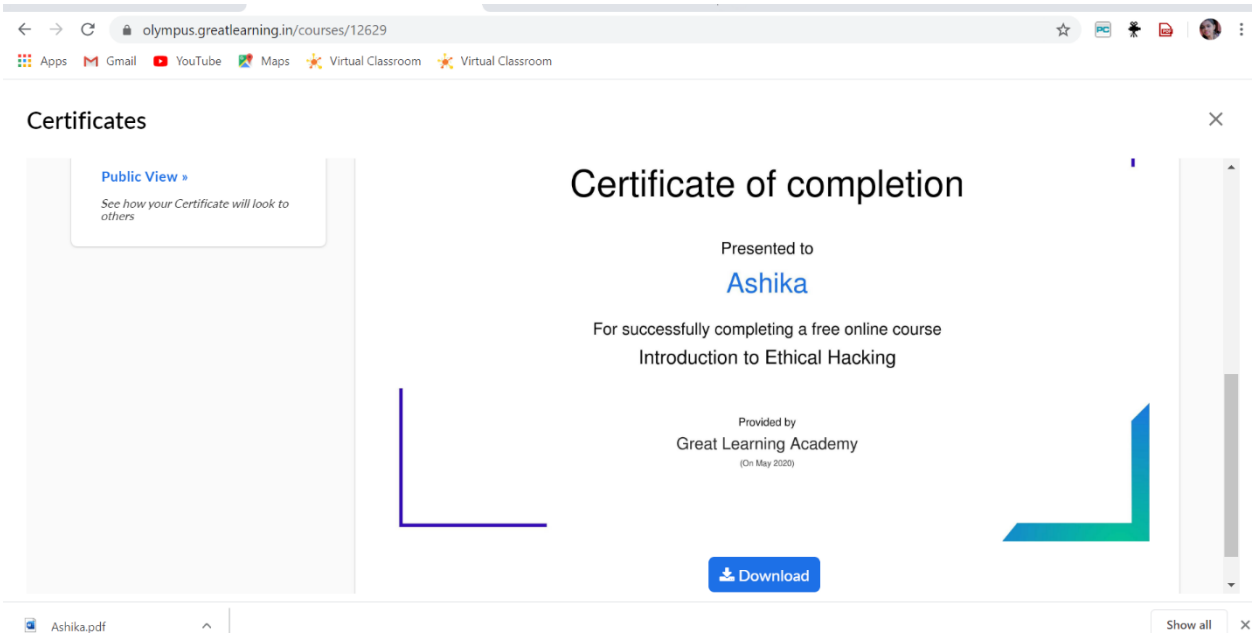
Status: done(executed)	
Uploaded the report in Github	**yes**
If yes Repository name	https://github.com/ASHIKA-05/DAILY-REPORT
Uploaded the report in slack	**yes**

SUBJECT: OPERATION RESARCH



CERTIFICATION COURSE





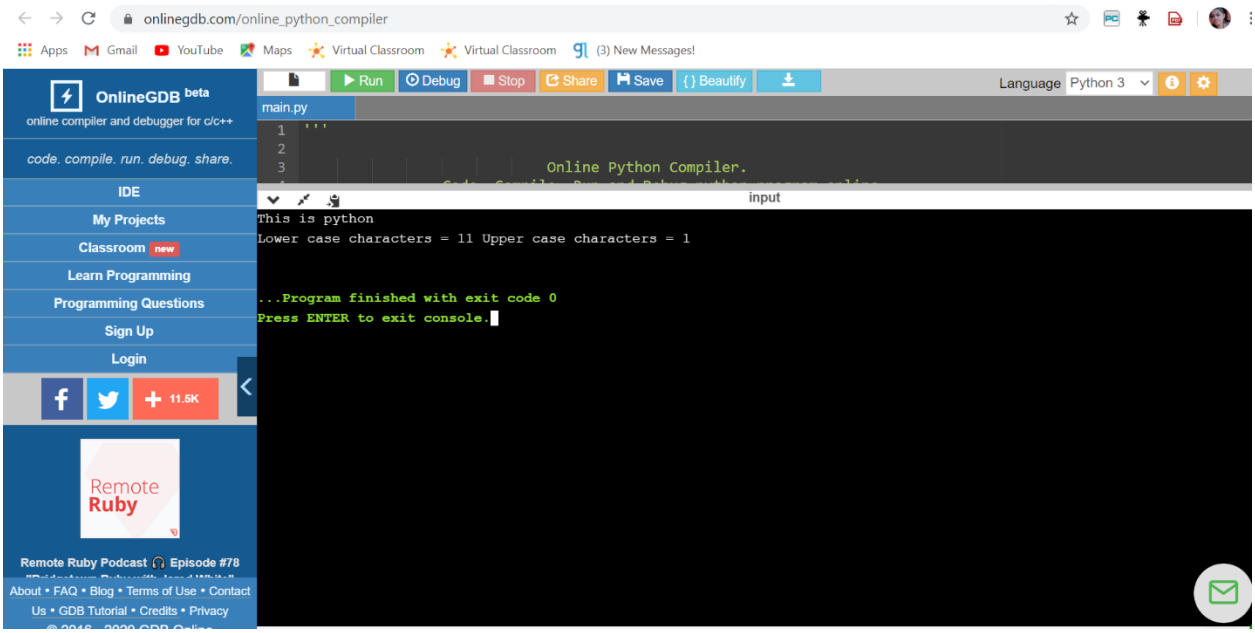
ONLINE CODING

1. Python program to calculate the number of lowercase and uppercase letters in a string

Description:
Take a string as input and find the number of uppercase and lower case letters in the string and print the count.
Note: any spaces has to be ignored
Eg: string is : 'This is Python'
Upper case characters : 2
Lower case characters : 10

```
def upperlower(string):


    upper = 0

    lower = 0


    for i in range(len(string)):

        if (ord(string[i]) >= 97 and

            ord(string[i]) <= 122):

            lower += 1

        elif (ord(string[i]) >= 65 and

              ord(string[i]) <= 90):

            upper += 1


    print('Lower case characters = %s' %lower,

          'Upper case characters = %s' %upper)
string = input()

upperlower(string)
```

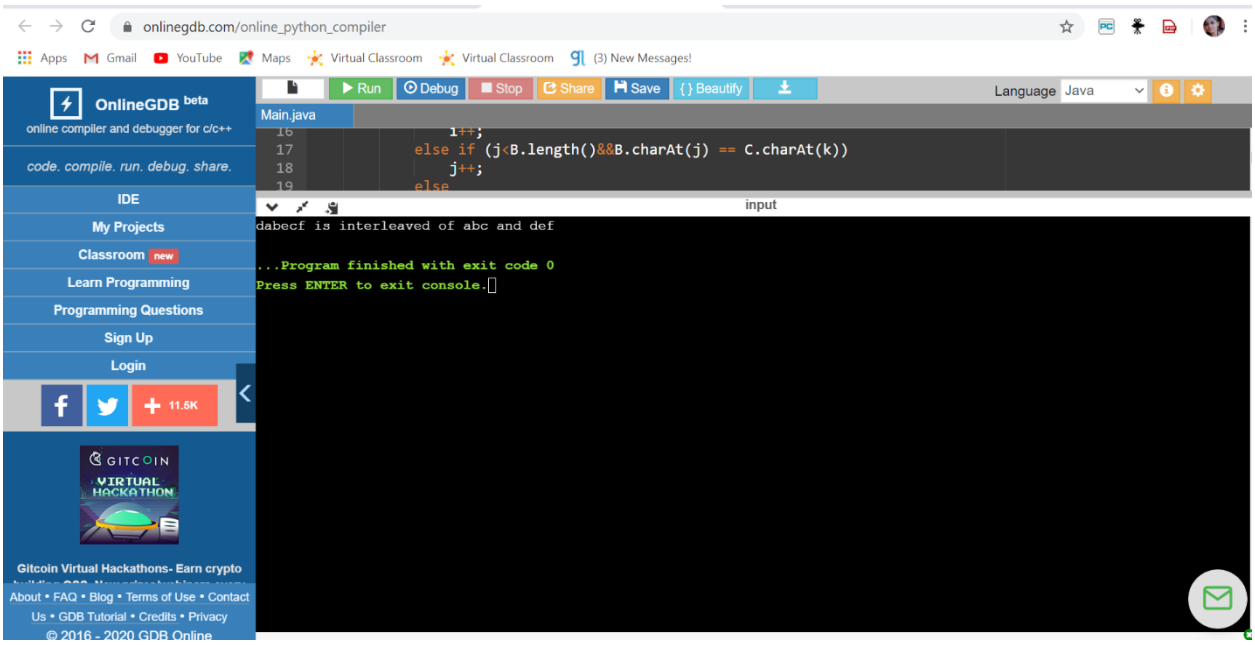
output:




```
public class Main{

    static boolean isInterleaved (String A, String B, String C)

    {

        int i = 0, j = 0, k = 0;

        while (k != C.length())

        {

            if (i<A.length()&&A.charAt(i) == C.charAt(k))

                i++;

            else if (j<B.length()&&B.charAt(j) == C.charAt(k))

                j++;

            else

                return false;

            k++;

        }
```

```
        if (i < A.length() || j < B.length())
            return false;

        return true;
    }

    public static void main(String []args){

        String A = "abc";
        String B = "def";
        String C = "dabecf";
        if (isInterleaved(A, B, C) == true)
            System.out.printf("%s is interleaved of %s and %s", C, A, B);
        else
            System.out.printf("%s is not interleaved of %s and %s", C, A, B);
    }
}
```

Output:



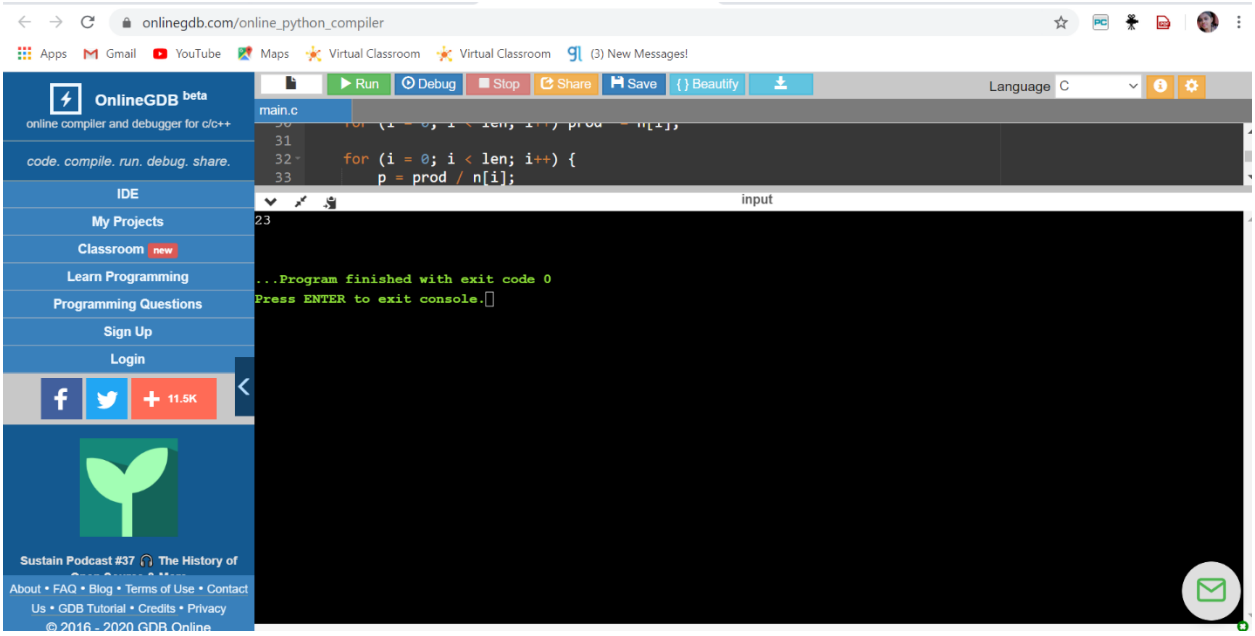
Write a c program to solve a system of linear congruences by applying the Chinese Remainder Theorem.

```
#include <stdio.h>


// returns x where (a * x) % b == 1

int mul_inv(int a, int b)

{

        int b0 = b, t, q;

        int x0 = 0, x1 = 1;

        if (b == 1) return 1;

        while (a > 1) {

                q = a / b;

                t = b, b = a % b, a = t;

                t = x0, x0 = x1 - q * x0, x1 = t;

        }
```

```
	if (x1 < 0) x1 += b0;
	return x1;
}

int chinese_remainder(int *n, int *a, int len)
{
	int p, i, prod = 1, sum = 0;

	for (i = 0; i < len; i++) prod *= n[i];

	for (i = 0; i < len; i++) {
		p = prod / n[i];
		sum += a[i] * mul_inv(p, n[i]) * p;
	}

	return sum % prod;
}

int main(void)
{
	int n[] = { 3, 5, 7 };
	int a[] = { 2, 3, 2 };

	printf("%d\n", chinese_remainder(n, a, sizeof(n)/sizeof(n[0])));
	return 0;
```

}

Output: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Language C
main.c
for (i = 0; i < len; i++) {
p = prod / n[i];
input
23
...Program finished with exit code 0
Press ENTER to exit console.