DAILY ONLINE ACTIVITIES SUMMARY

Date:	**29-05-2020**	**Name:**	**Anvitha Poojary**
Sem & Sec	**6A**	**USN:**	**4AL17CS008**

Online Test Summary

Subject	**OR**		
Max. Marks	**30**	**Score**	**30**

Certification Course Summary

Course	**Python for data science**		
Certificate Provider	**COGNITIVE CLASS .ai**	**Duration**	**5hr**

Coding Challenges

Problem Statement:

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

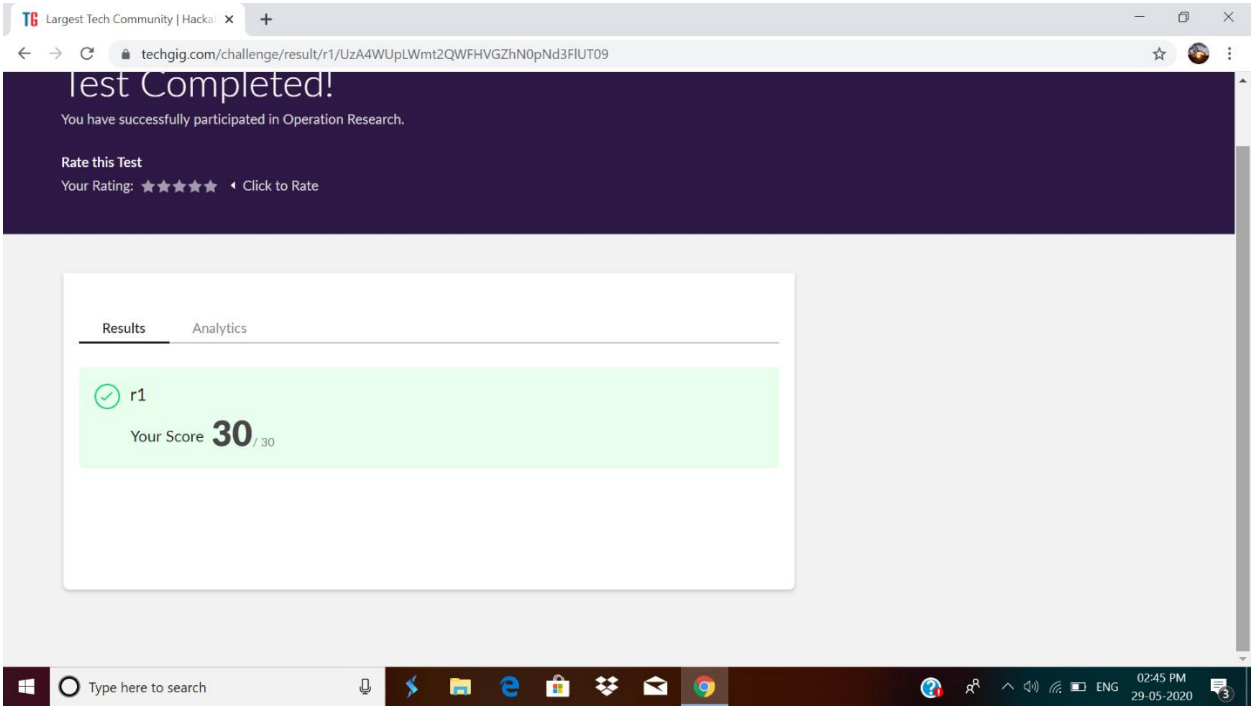
3.Write a c program to solve a system of linear congruences by applying the Chinese Remainder Theorem.

Status: completed

Uploaded the report in Github	**Yes**
If yes Repository name	https://github.com/anvithapo99/Daily-Report
Uploaded the report in slack	**Yes**

Online test details:

Subject: OR



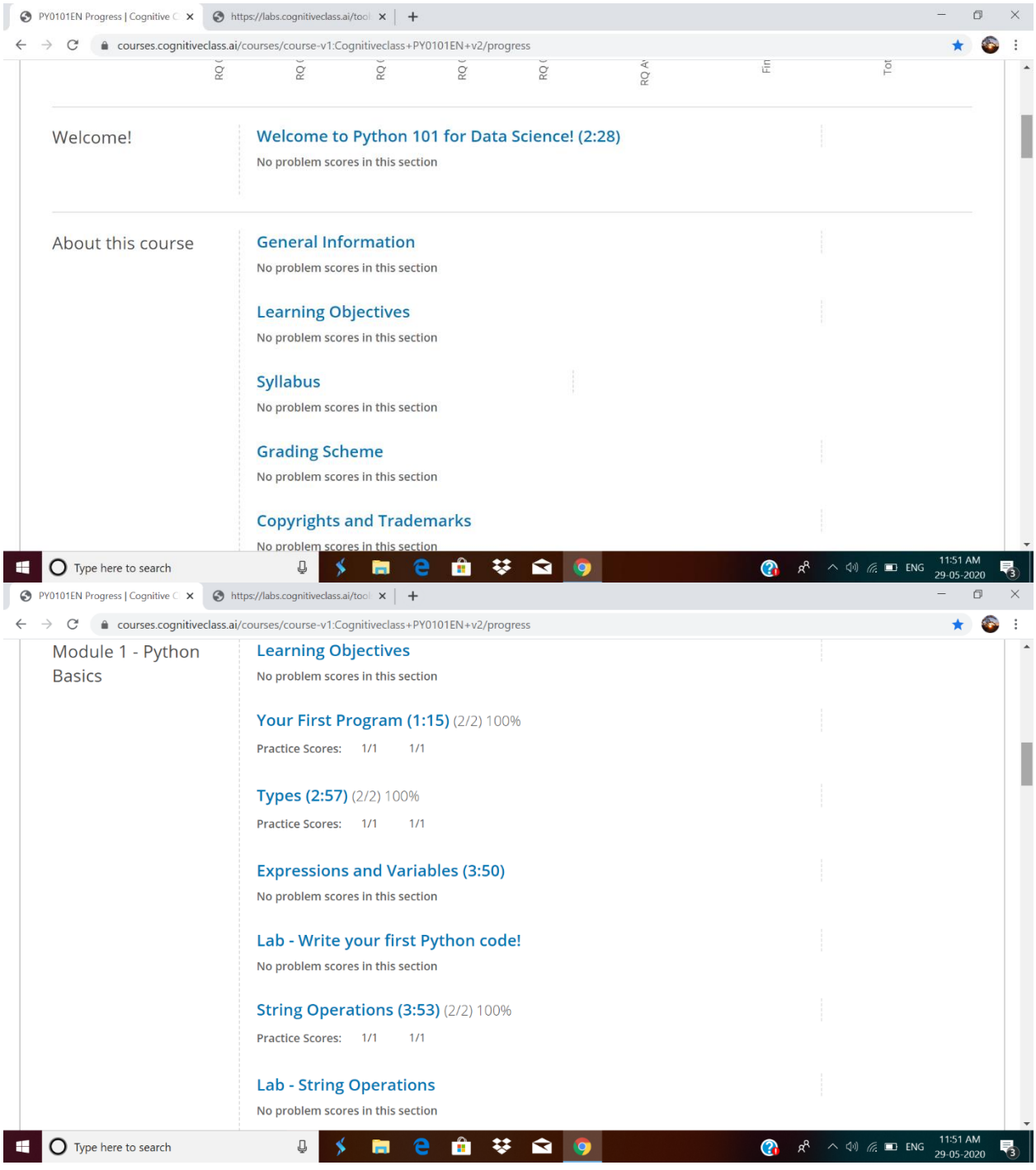
Certification course details:

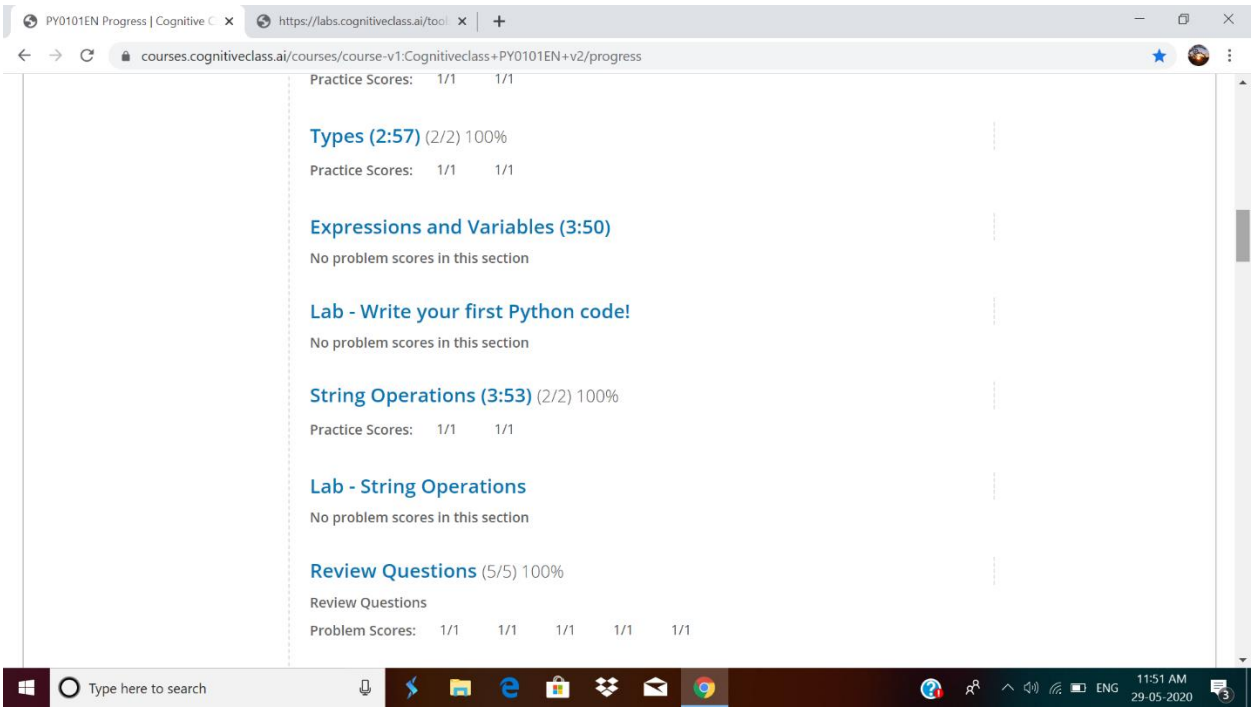
Python for data science

Today I have studied following topics:

- Expression and variable
- String operation
- Types

- Some programs





Coding Challenges Details:

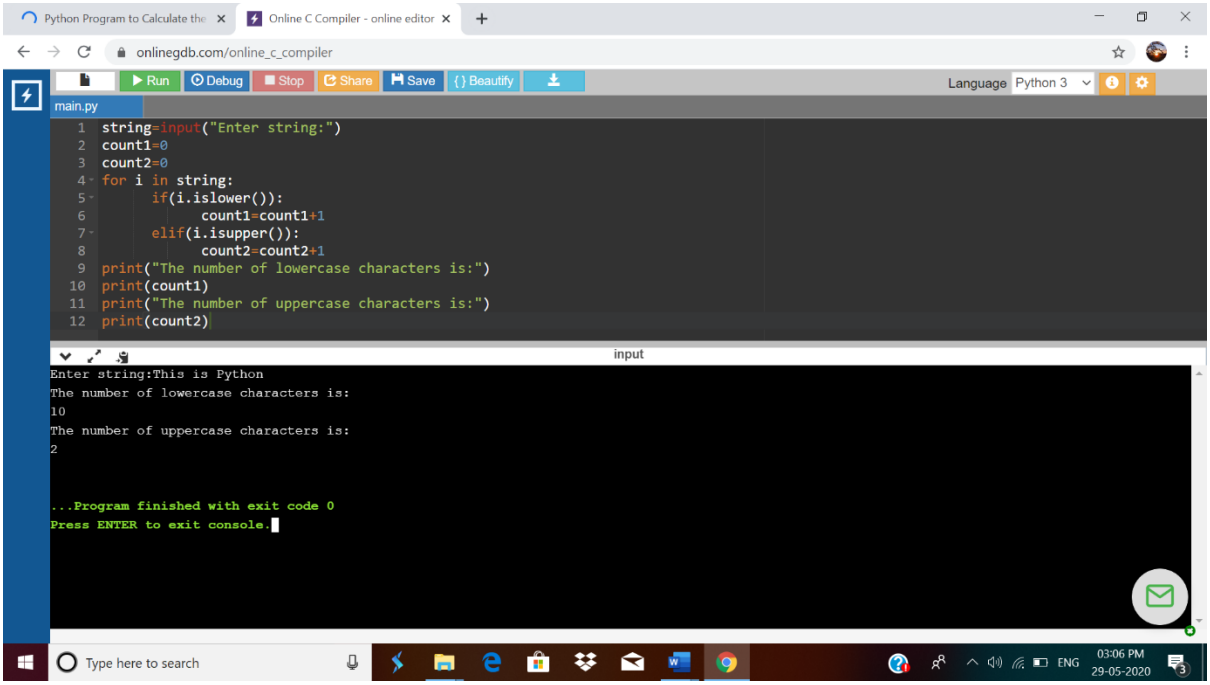
1. Python program to calculate the number of lowercase and uppercase letters in a string

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

```
string=input("Enter string:")

count1=0

count2=0

for i in string:

    if(i.islower()):

        count1=count1+1
```

```
    elif(i.isupper()):
        count2=count2+1
print("The number of lowercase characters is:")
print(count1)
print("The number of uppercase characters is:")
print(count2)
```

output:



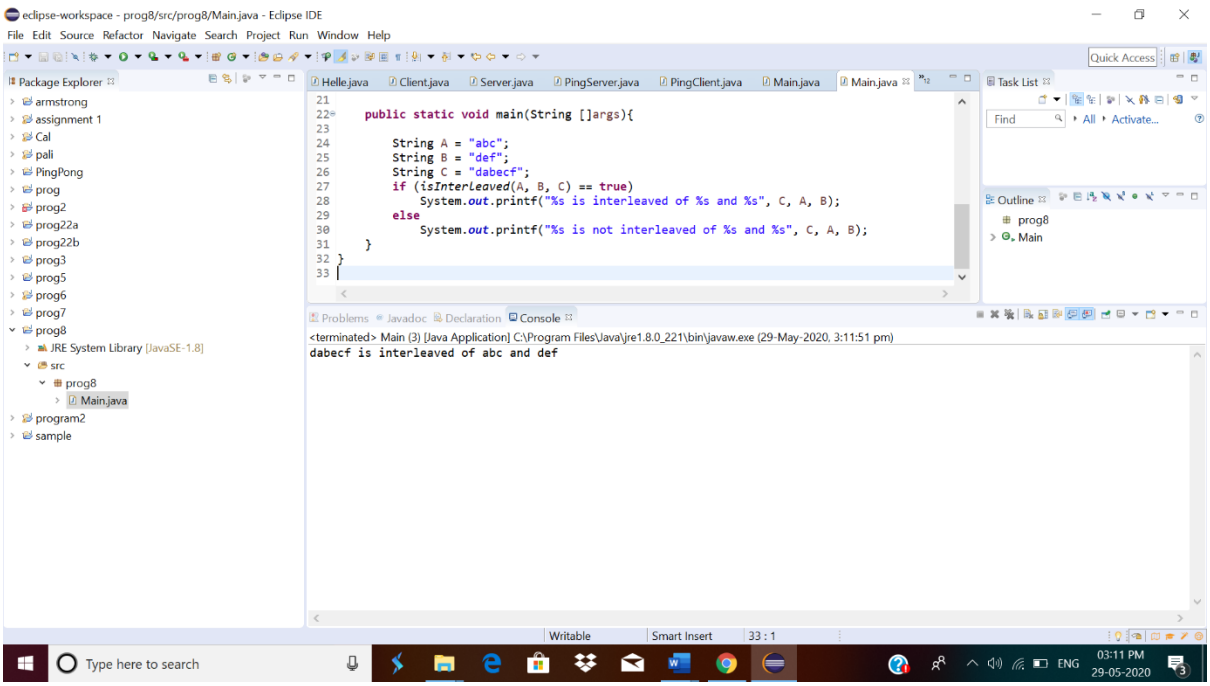
2. We are given 3 strings: str1, str2, and str3. Str3 is said to be a shuffle of str1 and str2 if it can be formed by interleaving the characters of str1 and str2 in a way that maintains the left to right ordering of the characters from each string. For example, given str1="abc" and str2="def", str3="dabecf"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

```
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:



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

```
#include <stdio.h>


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: