

## 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.

<b>Status: done(executed)</b>	
<b>Uploaded the report in Github</b>	<b>yes</b>
<b>If yes Repository name</b>	<a href="https://github.com/ASHIKA-05/DAILY-REPORT">https://github.com/ASHIKA-05/DAILY-REPORT</a>
<b>Uploaded the report in slack</b>	<b>yes</b>

SUBJECT: OPERATION RESARCH

techgig.com/challenge/result/r1/bGduOG5JenYyVm1vc1FmN2I5VENXQT09

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## Test Completed!

You have successfully participated in Operation Research.

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Your Rating: ★★★★★ ◀ Click to Rate

**Results** Analytics

✓ r1  
Your Score **30** / 30

CERTIFICATION COURSE

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### Claim your course certificate

Type : Survey Attempts : 1/1 Questions : 7

Your Score : 0.00/1

**Instructions**

Congratulations on successfully completing the course.

**Please note:** After filling this survey, the certificate will get added to your dashboard in the next 24 hours.

**Attempt History**

Date	Attempt	Marks
May 28, 11:45 AM	1	0

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### Certificates

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Presented to  
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For successfully completing a free online course  
Introduction to Ethical Hacking

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## 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
```

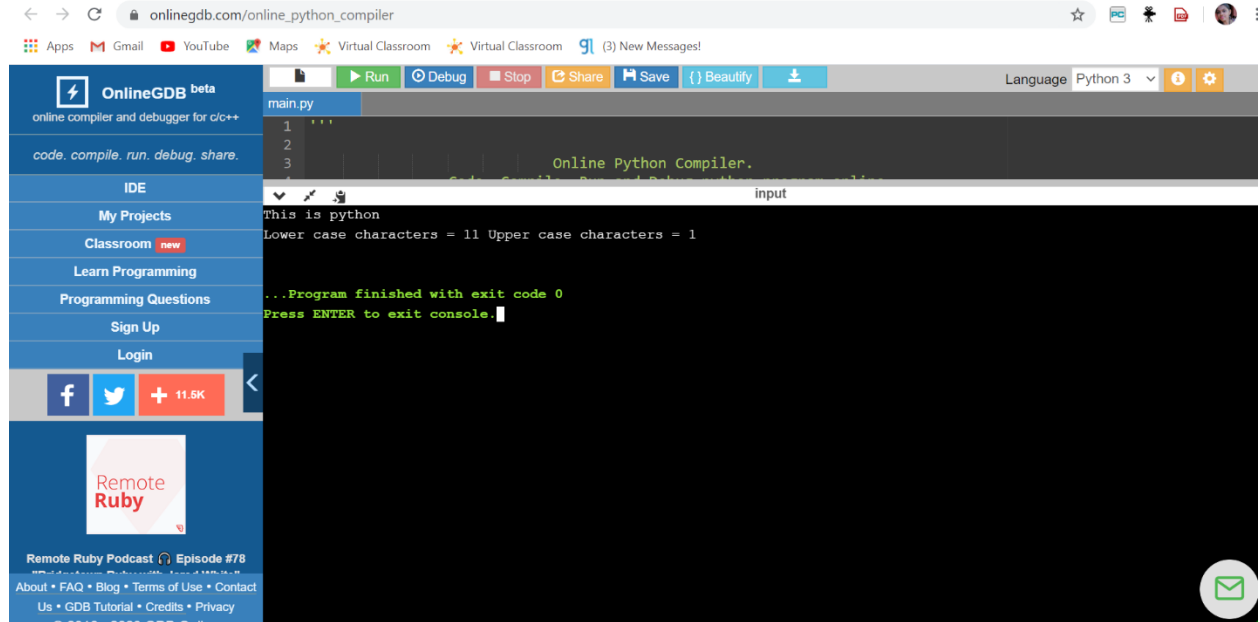
```
    print('Lower case characters = %s' %lower,
```

```
          '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);

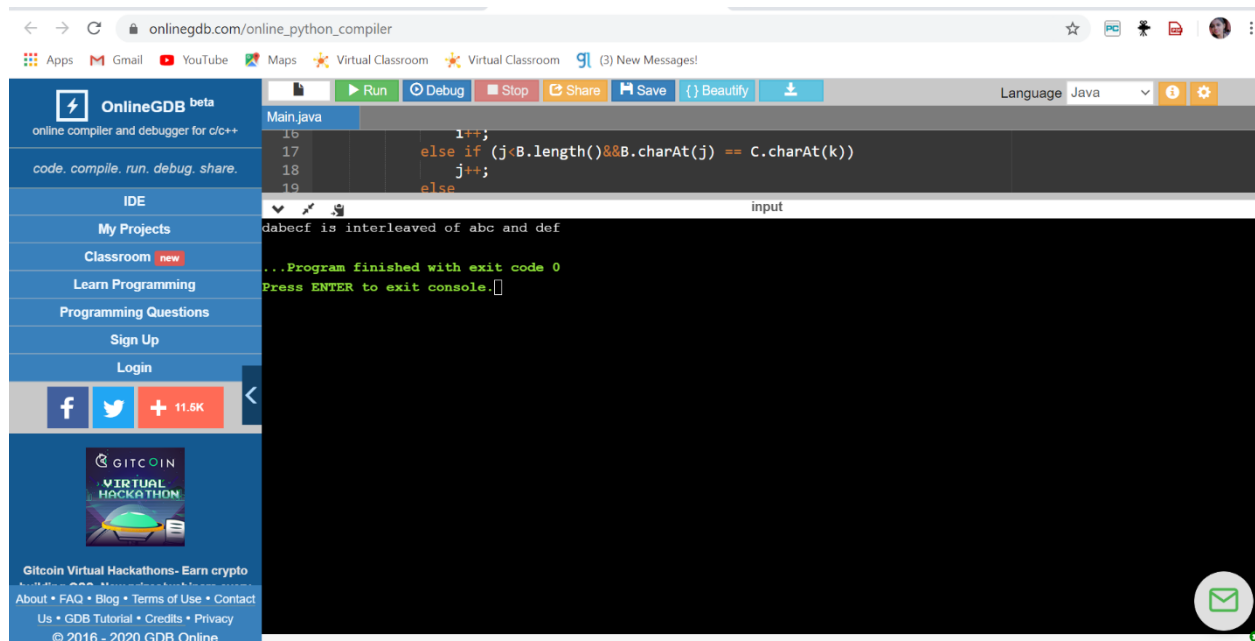
        else

            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:

The screenshot displays the OnlineGDB web IDE interface. The browser address bar shows the URL `onlinegdb.com/online_python_compiler`. The interface includes a top toolbar with buttons for Run, Debug, Stop, Share, Save, and Beautify. The left sidebar contains navigation links such as IDE, My Projects, Classroom, Learn Programming, Programming Questions, Sign Up, and Login. The main editor area shows a C program in `main.c` with the following code:

```
for (i = 0; i < len; i++) prod = n[i];  
31  
32 for (i = 0; i < len; i++) {  
33     p = prod / n[i];
```

The output console at the bottom displays the message: `...Program finished with exit code 0` and `Press ENTER to exit console.`