16. (b) Test 16

Test Summary

- No. of Sections: 2
- No. of Questions: 3
- Total Duration: 45 min

Section 1 - Coding Proficiency

Section Summary

- No. of Questions: 2
- Duration: 30 min

Additional Instructions:

None

Q1. Pattern

Get input as N, square the N and generate the number from 1 to N2.

```
n= 4

 1*2*3*4
9*10*11*12
13*14*15*16
5*6*7*8
```

Input Format

Input contains n

Output Format

Print the pattern

Constraints

1<=n<=25

Sample Input

```
4
```

Sample Output

```
1*2*3*4
9*10*11*12
13*14*15*16
5*6*7*8
```

Time Limit: - ms Memory Limit: - kb Code Size: - kb

Q2. **Count the occurrence of substring**
Find the occurrence of a sub string in a parent string

Input Format

Input contains the string and the sub string

Output Format

print the count

Constraints

1<=substring_length <= string_length<=1000

Sample Input

```
hgjghjhab
ab
```

Sample Output

```
1
```

Time Limit: - ms Memory Limit: - kb Code Size: - kb

Section 2 - Essay Writing

Section Summary

- No. of Questions: 1
- Duration: 15 min

Additional Instructions:

None

Q1. **Essay Writing**

"Parents forcing kids to spend their leisure time usefully" our view on dis topic

Directions

Write an essay for the given question

Keywords

Answer Key & Solution

Section 1 - Coding Proficiency

Q1

Test Case

Input

```
5
```

Output

```
1*2*3*4*5
11*12*13*14*15
21*22*23*24*25
16*17*18*19*20
```

Weightage - 5

Input

```
7
```

Output

```
1*2*3*4*5*6*7
15*16*17*18*19*20*21
29*30*31*32*33*34*35
43*44*45*46*47*48*49
```

Weightage - 5

Input

```
10
```

Output

```
1*2*3*4*5*6*7*8*9*10
21*22*23*24*25*26*27*28*29*30
41*42*43*44*45*46*47*48*49*50
61*62*63*64*65*66*67*68*69*70
```

Weightage - 10

Input

```
15
```

Output

```
1*2*3*4*5*6*7*8*9*10*11*12*13*14*15
31*32*33*34*35*36*37*38*39*40*41*42*43*44*45
61*62*63*64*65*66*67*68*69*70*71*72*73*74*75
```

Weightage - 10

Input

```
13
```

Output

```
1*2*3*4*5*6*7*8*9*10*11*12*13
27*28*29*30*31*32*33*34*35*36*37*38*39
53*54*55*56*57*58*59*60*61*62*63*64*65
```

Weightage - 10

Input

```
12
```

Output

```
1*2*3*4*5*6*7*8*9*10*11*12
25*26*27*28*29*30*31*32*33*34*35*36
49*50*51*52*53*54*55*56*57*58*59*60
73*74*75*76*77*78*79*80*81*82*83*84
```

Weightage - 10

Input

```
17
```

Output

```
1*2*3*4*5*6*7*8*9*10*11*12*13*14*15*16*17
35*36*37*38*39*40*41*42*43*44*45*46*47*48*49*50*5
69*70*71*72*73*74*75*76*77*78*79*80*81*82*83*84
```

Weightage - 10

Input

```
20
```

Output

```
1*2*3*4*5*6*7*8*9*10*11*12*13*14*15*16*17*18*19*20
41*42*43*44*45*46*47*48*49*50*51*52*53*54*55*56*57*
81*82*83*84*85*86*87*88*89*90*91*92*93*94*95*96*97*
```

Weightage - 10

Input

```
25
```

Output

```
1*2*3*4*5*6*7*8*9*10*11*12*13*14*15*16*17*18*19*20*
51*52*53*54*55*56*57*58*59*60*61*62*63*64*65*66*67*
101*102*103*104*105*106*107*108*109*110*111*112*113
```

Weightage - 10

Input

```
23
```

Output

```
1*2*3*4*5*6*7*8*9*10*11*12*13*14*15*16*17*18*19*20*
47*48*49*50*51*52*53*54*55*56*57*58*59*60*61*62*63*
93*94*95*96*97*98*99*100*101*102*103*104*105*106*10
```

Weightage - 10

Input

```
27
```

Output

```
1*2*3*4*5*6*7*8*9*10*11*12*13*14*15*16*17*18*19*20*
55*56*57*58*59*60*61*62*63*64*65*66*67*68*69*70*71*
109*110*111*112*113*114*115*116*117*118*119*120*121
```

Weightage - 10

Sample Input

```
4
```

Sample Output

```
1*2*3*4
9*10*11*12
13*14*15*16
5*6*7*8
```

Solution

```
#include<stdio.h>
int main()
{
    int N, row, col, num;
    scanf("%d",&N);
    for(row = 0; row < N ; row+=2, printf("\n"))
    {
        for(col = 0, num = row * N + 1; col < N-1; col++)
            printf("%d*", num++);
            printf("%d", num);
    }
for(row = N % 2 == 0 ? N -1: N-2; row > 0 ; row-=2, printf("\n"))
    {
        for(col = 0, num = row * N + 1; col < N-1; col++)
            printf("%d*", num++);
            printf("%d", num);
    }
}
```

```
}


#include<stdio.h>
int main()
{
    int N, row, col, num;
    scanf("%d",&N);
    for(row = 0; row < N ; row+=2, printf("\n"))
    {
        for(col = 0, num = row * N + 1; col < N-1; col++)
            printf("%2d*", num++);
            printf("%2d", num);
    }
for(row = N % 2 == 0 ? N -1: N-2; row > 0 ; row-=2, printf("\n"))
    {
        for(col = 0, num = row * N + 1; col < N-1; col++)
            printf("%2d*", num++);
            printf("%2d", num);
    }
}
```

Q2

Test Case

Input	Output
aAbcDefabcAdf abc	1

Weightage - 5

Input	Output
GPViTzNqRKXYzpqvwguAjGPfWLDkpqvwguMpjNWbGDhvyRtCrpqv pqvwgu	4

Weightage - 5

Input	Output
CRDLwDTMWiRMFKFEiqbqbXYhtDTMWiRMnXcNKmwPPHFyDDBYmLbx DTMWiRM	3

Weightage - 10

Input	Output
hGYhdeYkGVcwGTnbVQVcwGcRFNAEummujgwdcqmtrexvVnwkwaVc VcwG	9

Weightage - 10

Input	Output
LBqnQYgdwxNdEaSbFVixpXjyWSjBJDfWMAuQLJVbiEivnFTfAdfT RByAiyHahDiFa	2

Weightage - 10

Input **Output**

```
eYwVRtqHJPTwWPAtjBiwnBubELzpbYgaKdDAmbBEWkBjHcQDQqbN
dKzTxqiUuEHEAnevHwPC
```

```
0
```

Weightage - 10

Input **Output**

```
qLfyBPYQLwBQmamTvTiKWbeBmiCcWRLHXLPfgiJCRDzZnNgEEkpw
qLfyBPYQLwBQmamTvTiKWbeBmiCcWRLHXLPfgiJCRDzZnNgEEkpw
```

```
1
```

Weightage - 10

Input **Output**

```
BeWRUPDmYwCjAwgjKbVgU tNuUzR meSCnrV YAnQVQEr PLBeb
PDmYwCjAwgjKbVgU
```

```
3
```

Weightage - 10

Input **Output**

```
=ZAHijH+yfWup;UU?BGSES!R#%Y,V_/ExZYugE/V)M-uS@y#xzP/
Rg[kqpg
```

```
4
```

Weightage - 10

Input **Output**

```
Sx;@.heyyBvA;-G$Ga$@W+Jwr[?U?uRuXvJ+ErhPiEnv_h;c[GRW
E)ccw:&Q[BeeGUi%g(TFareAm;vBcqLehtB]N]u$/Bh%*Tc%*AP&
```

```
1
```

Weightage - 10

Input **Output**

```
Z&+_+#yQz#W-iwk.{LA$Ve;Wz.c{Z@%+x,aYv,GV):r.jz]rYnxV
FuCUXvBh(.FG]LzhmcgKMbU
```

```
4
```

Weightage - 10

Sample Input **Sample Output**

```
hgjghjhab
ab
```

```
1
```

Solution

```c
#include <stdio.h>
#include <string.h>

char str[1000], sub[1000];
int count = 0, count1 = 0;

int main()
{
    int i, j, l, l1, l2;

    //printf("\nEnter a string : ");
    scanf("%[^\n]s", str);

    l1 = strlen(str);

    //printf("\nEnter a substring : ");
    scanf(" %[^\n]s", sub);

    l2 = strlen(sub);

    for (i = 0; i <=l1;)
    {
        j = 0;
        count = 0;
    while (str[i]!= '\0'&& (str[i] == sub[j]))
    {
        count++;
        i++;
        j++;

        }
        if (count == l2)
        {
            count1++;
            count = 0;
        if(str[i]=='\0')break;
        }
        else
            i++;
    }
    printf("%d", count1);
}
```

Section 2 - Essay Writing

Q1

Sample Essay

No Essay

Keywords

kids, parents, time, usefully, leisure,