14. (b) Test 14

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 - Star Pyramid**

C program to print following pyramid pattern of stars n=5
```
        *
      * * *
    * * * * *
  * * * * * * *
* * * * * * * * *
```

Input Format

Input contains n

Output Format

Print the pattern

Constraints

1 <= n <= 20

Sample Input	Sample Output

5	``` *```
	 ``` * * *```
	 ``` * * * * *```
	 ``` * * * * * * *```

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

Q2.　　**Pascal triangle**

Write a c program to print Pascal triangle n =8
```
        1
       1 1
      1 2 1
     1 3 3 1
    1 4 6 4 1
   1 5 10 10 5 1
  1 6 15 20 15 6 1
 1 7 21 35 35 21 7 1
```

Input Format

Input is n

Output Format

Print the pattern

Constraints

1 <= n <= 50

Sample Input	Sample Output
5	``` 1``` ``` 1 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**

If you want to develop your community what one thing you will do. why explain with reason

Directions

Write an essay for the given topic

Keywords

Section 1 - Coding Proficiency

Q1

Test Case

Input

4

Output

```
      *
    * * *
  * * * * *
* * * * * * *
```

Weightage - 5

Input

3

Output

```
    *
  * * *
* * * * *
```

Weightage - 5

Input

6

Output

```
      *
    * * *
  * * * * *
* * * * * * *
```

Weightage - 10

Input

8

Output

```
      *
    * * *
  * * * * *
* * * * * * *
```

Weightage - 10

Input

10

Output

```
      *
    * * *
  * * * * *
* * * * * * *
```

Weightage - 10

Input

12

Output

```
    *
  * * *
* * * * *
```

Weightage - 10

Input

15

Output

```
    *
  * * *
* * * * *
```

Weightage - 10

Input	Output

18	`        *`
	`      * * *`
	`    * * * * *`

Weightage - 10

Input	Output

16	`        *`
	`      * * *`
	`    * * * * *`

Weightage - 10

Input	Output

17	`        *`
	`      * * *`
	`    * * * * *`

Weightage - 10

Input	Output

19	`        *`
	`      * * *`
	`    * * * *`

Weightage - 10

Sample Input	Sample Output

5	`    *`
	`  * * *`
	`* * * * *`

Solution

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

    return 0;
}
```

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

    return 0;
}
```

Q2

Test Case

Input

```
2
```

Output

```
   1
  1  1
```

Weightage - 5

Input

```
8
```

Output

```
      1
     1 1
    1 2 1
   1 3 3 1
```

Weightage - 10

Input

```
4
```

Output

```
      1
     1 1
    1 2 1
   1 3 3 1
```

Weightage - 5

Input

```
7
```

Output

```
      1
     1 1
    1 2 1
   1 3 3 1
```

Weightage - 10

Input

```
9
```

Output

```
      1
     1 1
    1 2 1
   1 3 3 1
```

Weightage - 10

Input

```
10
```

Output

```
        1
       1 1
      1 2 1
     1 3 3 1
```

Weightage - 10

Input

```
12
```

Output

```
        1
       1 1
      1 2 1
     1 3 3 1
```

Weightage - 10

Input

```
15
```

Output

```
        1
       1 1
      1 2 1
```

Weightage - 10

Input

```
14
```

Output

```
        1
       1 1
      1 2 1
```

Weightage - 10

Input

```
16
```

Output

```
        1
       1 1
      1 2 1
```

Weightage - 10

Input

```
18
```

Output

```
        1
       1 1
      1 2 1
```

Weightage - 10

Sample Input

```
5
```

Sample Output

```
        1
       1 1
      1 2 1
     1 3 3 1
```

Solution

```c
#include<stdio.h>

long fact(int);
int main(){
    int line,i,j;

    scanf("%d",&line);

    for(i=0;i<line;i++){
        for(j=0;j<line-i-1;j++)
            printf(" ");

        for(j=0;j<i;j++)
            printf("%ld ",fact(i)/(fact(j)*fact(i-j)));
        printf("%ld",fact(i)/(fact(j)*fact(i-j)));

        printf("\n");
    }
    return 0;
}

long fact(int num){
    long f=1;
    int i=1;
    while(i<=num){
        f=f*i;
        i++;
    }
  return f;
 }
```

```c
#include<stdio.h>

long fact(int);
int main(){
    int line,i,j;

    scanf("%d",&line);

    for(i=0;i<line;i++){
        for(j=0;j<line-i-1;j++)
            printf(" ");

        for(j=0;j<=i;j++)
            printf("%ld ",fact(i)/(fact(j)*fact(i-j)));
        printf("\n");
    }
    return 0;
}

long fact(int num){
    long f=1;
    int i=1;
    while(i<=num){
        f=f*i;
        i++;
    }
  return f;
 }
```

Section 2 - Essay Writing

Q1   Sample Essay

No Essay

Keywords

develop, community, unity, education, social,