

Assignment-4

1. Write a C program to print the following asterisk graph:

```
*
* *
* * *
* * * * (Up to n numbers of row)
```

Logic:

Step1: Input number of row.

Step2: for i=1 to number of row

2.a. for j=1 to i

2.a.1 print "*" "

2.b move the control to new line

Step3. Stop.

2. Write a C program to print the following pattern:

```
      1
    2 3
  3 4 5
4 5 6 7 (Up to n)
```

Logic:

Input number of rows

a=1

for i=1 to rows

begin

//manage the space

for k= 1 to rows-i

Printf(" ")

For j= 1 to i // used to print the values in the row

Begin

Print a

Increment a

End//end of for j

Print a new line

End//end of for i

3. Write a C program to print digits in following pyramidal form:

```
      1
    2 3 2
  3 4 5 4 3
4 5 6 7 6 5 4
```

Logic: input number of rows

for (i = 1; i <= rows; ++i)

```

begin
    for (space = 1; space <= rows - i; ++space) // mange the space at the beginning of each line
        begin
            printf(" ");
            ++count;
        End

    while (k != 2 * i - 1)
        begin
            if (count <= rows - 1)
                begin
                    printf("%d ", i + k);
                    ++count;
                end
            else
                begin
                    ++count1;
                    printf("%d ", (i + k - 2 * count1));
                end
            ++k;
        End//end of while k
    count1 = count = k = 0;
    printf("\n");
end//end of for i

```

4. Write a C program to print the following pascal triangle

```

          1
        1 1
      1 2 1
    1 3 3 1
  1 4 6 4 1
1 5 10 10 5 1

```

1 (Up to n numbers of row)

Logic:

Input number of rows

for (i = 0; i < rows; i++)

begin

// mange the space at the beginning of line

for (space = 1; space <= rows - i; space++)

printf(" ");

//print the values in each row as coef

for (j = 0; j <= i; j++)

begin

if (j == 0 || i == 0)

coef = 1;

else

coef = coef * (i - j + 1) / j;

printf("%4d", coef); // %4d is used to mange space between two values

end//end of for j

printf("\n");

end//end of for i