

## HATFD1035

### Print Pascal's Triangle

Write a program to generate and print the first n rows of Pascal's triangle without using built-in math or

array functions. For n = 5, the output should be:

```
1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
```

### Solution:

```
#include <stdio.h>

int main()
{
    int n,row,i,j,a=1;
    printf("Give the input for number of rows to be displayed: ");
    scanf("%d",&n);
    for(i=0;i<n;i++)
    {
        for(row=1;row<=n-i;row++)
            printf(" ");
        for(j=0;j<=i;j++)
        {
            if (j==0||i==0)
                a=1;
            else
                a=a*(i-j+1)/j;
            printf("% 4d",a);
        }
        printf("\n");
    }
}
```

**Answers:**

1) Give the input for number of rows to be displayed: 5

```
1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
```

2) Give the input for number of rows to be displayed: 3

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

3) Give the input for number of rows to be displayed: 7

```
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
```