

## 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
```

Program:

```
#include <stdio.h>

void PascalTriangle(int n) {
    int i, j;
    for (i = 0; i < n; i++) {
        for (j = 0; j < n - i - 1; j++) {
            printf(" ");
        }
        int current = 1;
        for (j = 0; j <= i; j++) {
            printf("%d ", current);
            current = current * (i - j) / (j + 1);
        }
        printf("\n");
    }
}
```

```
        }

        printf("\n");
    }
}

int main() {

    int n;

    printf("Enter the number of rows : ");

    scanf("%d", &n);

    PascalTriangle(n);


    return 0;
}
```

**Sample output:**

**Enter the number of rows : 5**

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

**Output 1:**

**Enter the number of rows: 3**

```
1
1 1
```

**1 2 1**

**Output 2:**

**Enter the number of rows: 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**

**Output 3:**

**Enter the number of rows: 9**

**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**

**1 8 28 56 70 56 28 8 1**