

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 row,c=1,b,j;
```

```
    printf("Rows: ");
```

```
    scanf("%d",&row);
```

```
    int i=0;
```

```
    do
```

```
    {
```

```
        for(b=1;b<=row-i;b++)
```

```
        {
```

```
            printf(" ");
```

```
        }
```

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

```
        {
```

```

    if (j==0||i==0)
    {
        c=1;
    }
    else
    {
        c=c*(i-j+1)/j;
    }

    printf("% 4d",c);

}

printf("\n");

i++;

}

while(i<row);

}

```

sample output 1:

```

/tmp/Q9I9eCoyPN.o
Rows: 5

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

=== Code Execution Successful ===

```

sample output 2:

^ /tmp/uxuFxV0Jnq.o

Rows: 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
```

=== Code Execution Successful ===

sample output 3:

^ /tmp/YY9yGW2HQD.o

Rows: 10

```
      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
1 9 36 84 126 126 84 36 9 1
```

=== Code Execution Successful ===