HATFD1035

Problem Statement:

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

11

121

1331

14641

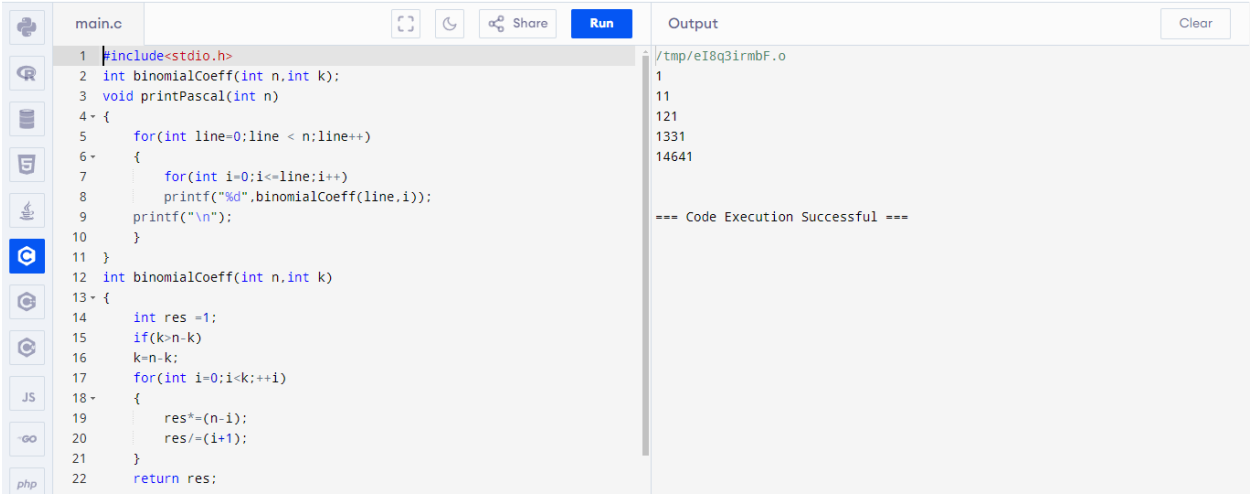
Program Code:

```
#include<stdio.h>

int binomialCoeff(int n,int k);

void printPascal(int n)

{

   for(int line=0;line < n;line++)

   {

      for(int i=0;i<=line;i++)

      printf("%d",binomialCoeff(line,i));

   printf("\n");

   }

}

int binomialCoeff(int n,int k)

{

   int res =1;

   if(k>n-k)

   k=n-k;

   for(int i=0;i<k;++i)
```

```
    {
        res*=(n-i);
        res/=(i+1);
    }
    return res;
}
int main()
{
    int n=5;
    printPascal(n);
    return 0;
}
```

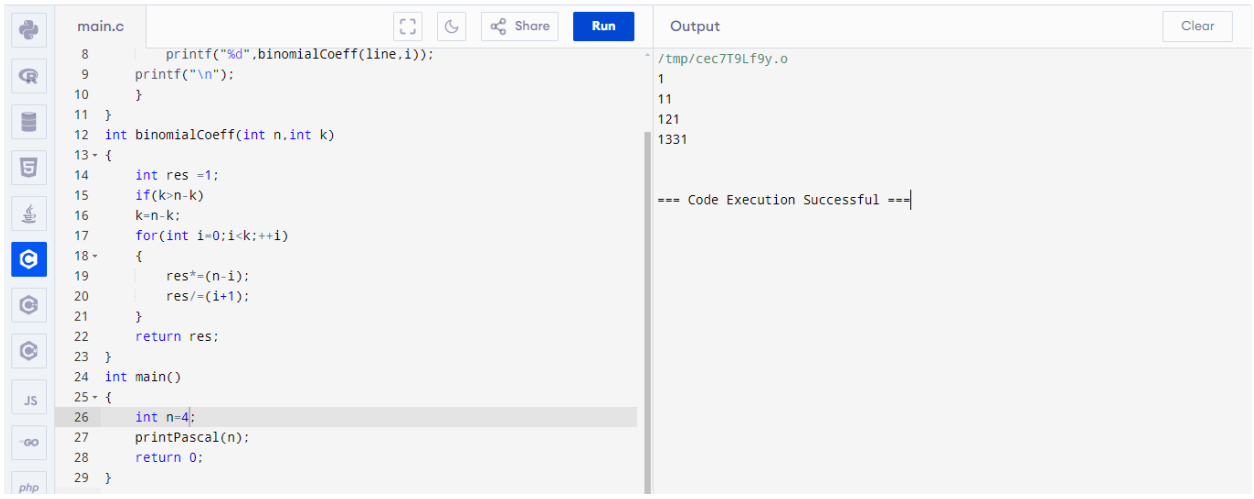
Output:

N=5;

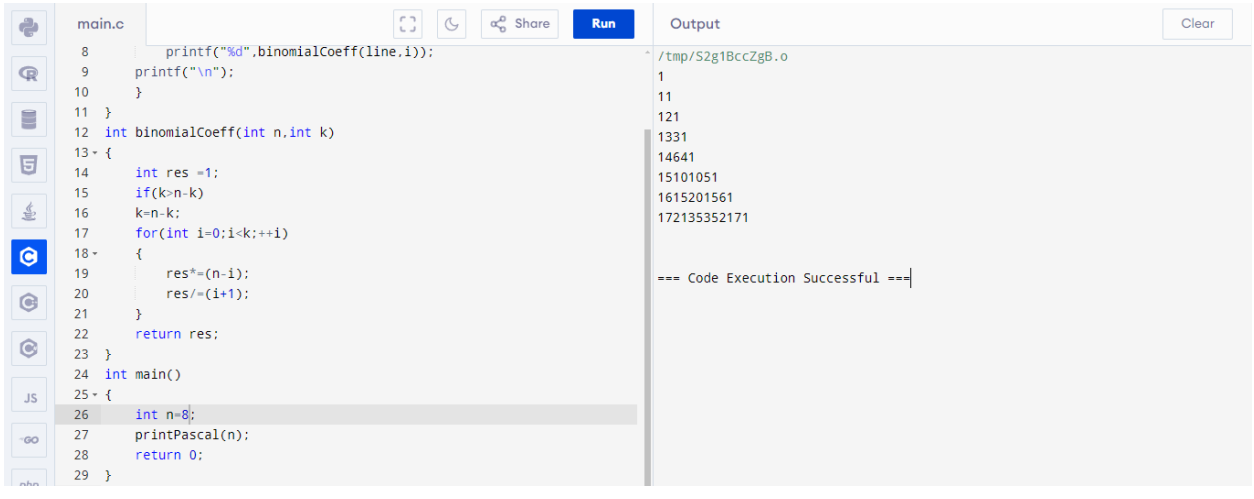


Sample Output:

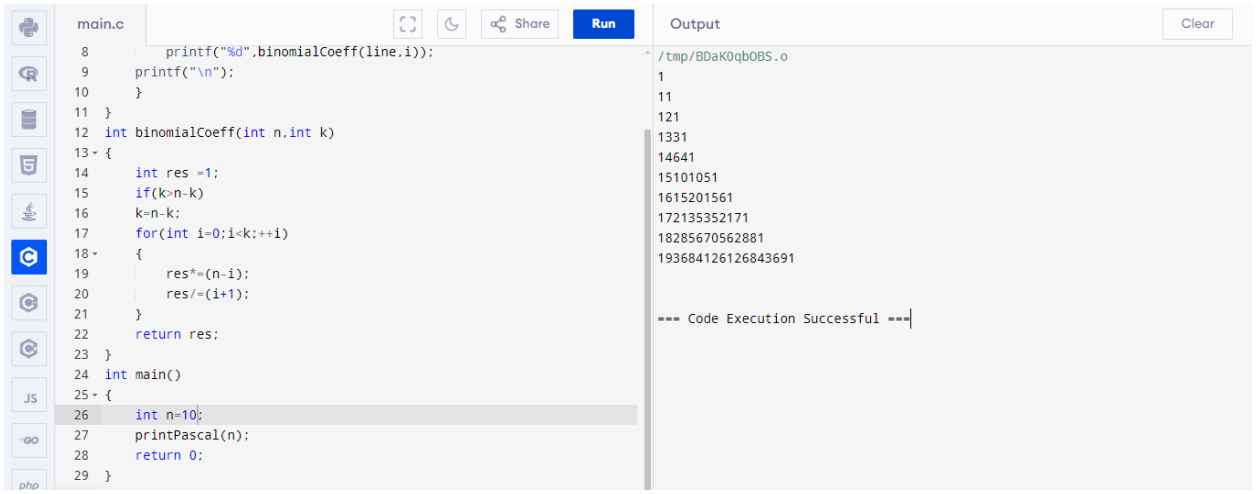
N=4;


main.c
Share
Run
Output
Clear
printf("%d",binomialCoeff(line,i));
printf("\n");
}
}
int binomialCoeff(int n,int k)
{
int res =1;
if(k>n-k)
k=n-k;
for(int i=0;i<k;++i)
{
res*=(n-i);
res/=(i+1);
}
return res;
}
int main()
{
int n=4;
printPascal(n);
return 0;
}
/tmp/cec7T9Lf9y.o
1
11
121
1331
=== Code Execution Successful ===

N=8;


main.c
Share
Run
Output
Clear
printf("%d",binomialCoeff(line,i));
printf("\n");
}
}
int binomialCoeff(int n,int k)
{
int res =1;
if(k>n-k)
k=n-k;
for(int i=0;i<k;++i)
{
res*=(n-i);
res/=(i+1);
}
return res;
}
int main()
{
int n=8;
printPascal(n);
return 0;
}
/tmp/S2g1BccZgB.o
1
11
121
1331
14641
15101051
1615201561
172135352171
=== Code Execution Successful ===

N=10;


main.c
Share
Run
Output
Clear
printf("%d",binomialCoeff(line,i));
printf("\n");
}
}
int binomialCoeff(int n,int k)
{
int res =1;
if(k>n-k)
k=n-k;
for(int i=0;i<k;++i)
{
res*=(n-i);
res/=(i+1);
}
return res;
}
int main()
{
int n=10;
printPascal(n);
return 0;
}
/tmp/BDaK0qbOBS.o
1
11
121
1331
14641
15101051
1615201561
172135352171
18285670562881
1936841261268436 91
=== Code Execution Successful ===