MD NAHIDUL HOQUE NIRAB 2018100000023

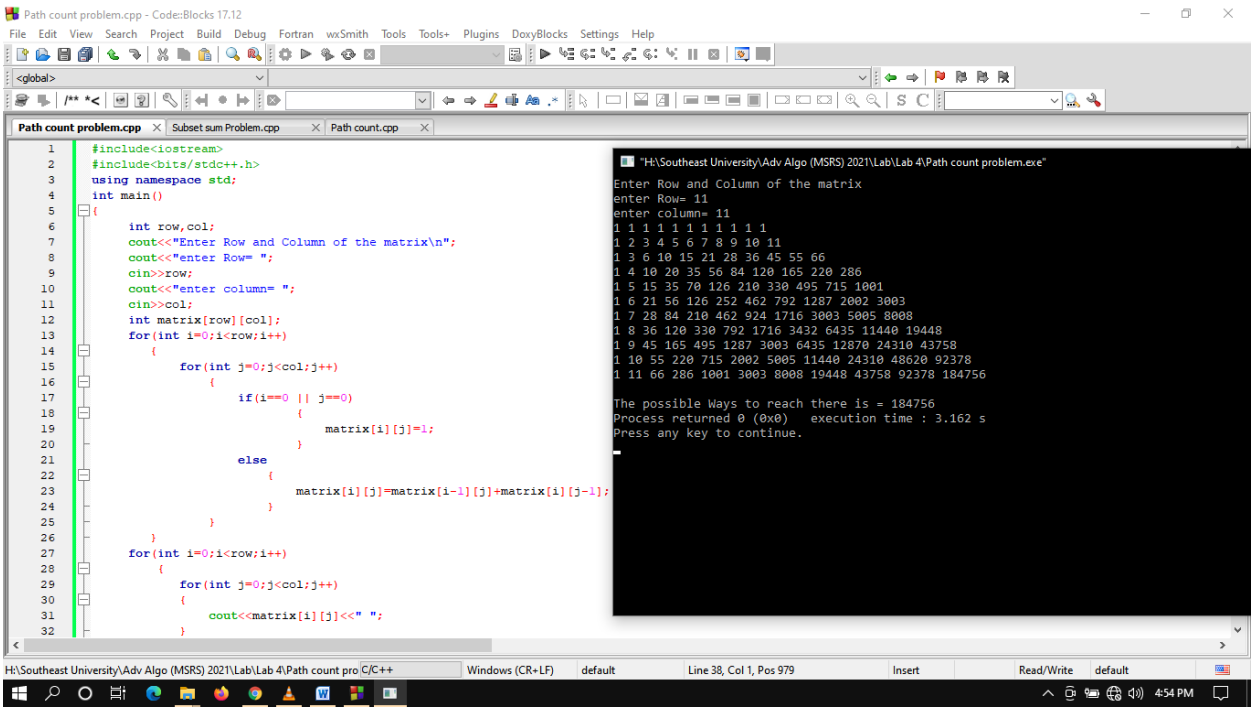
Assignment#4 - Path Count Problem Implementation using Dynamic Programming in any of your preferred Programming Language (C/C++/Java)

Code:

```
#include<iostream>

#include<bits/stdc++.h>

using namespace std;

int main()

{

    int row,col;

    cout<<"Enter Row and Column of the matrix\n";

    cout<<"enter Row= ";

    cin>>row;

    cout<<"enter column= ";

    cin>>col;

    int matrix[row][col];

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

      {

         for(int j=0;j<col;j++)

            {

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

                     {
```

```
                    matrix[i][j]=1;
                }
            else
                {
                    matrix[i][j]=matrix[i-1][j]+matrix[i][j-1];
                }
            }
        }
    for(int i=0;i<row;i++)
        {
            for(int j=0;j<col;j++)
            {
                cout<<matrix[i][j]<<" ";
            }
            cout<<endl;
        }
    cout<<"\nThe possible Ways to reach there is = "<<matrix[row-1][col-1];
    return 0;
}
```

Output:


Path count problem.cpp - Code::Blocks 17.12
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
Path count problem.cpp
Subset sum Problem.cpp
Path count.cpp
#include<iostream>
#include<bits/stdc++.h>
using namespace std;
int main()
{
int row,col;
cout<<"Enter Row and Column of the matrix\n";
cout<<"enter Row= ";
cin>>row;
cout<<"enter column= ";
cin>>col;
int matrix[row][col];
for(int i=0;i<row;i++)
{
for(int j=0;j<col;j++)
{
if(i==0 || j==0)
{
matrix[i][j]=1;
}
else
{
matrix[i][j]=matrix[i-1][j]+matrix[i][j-1];
}
}
}
for(int i=0;i<row;i++)
{
for(int j=0;j<col;j++)
{
cout<<matrix[i][j]<<" ";
}
"H:\Southeast University\Adv Algo (MSRS) 2021\Lab\Lab 4\Path count problem.exe"
Enter Row and Column of the matrix
enter Row= 11
enter column= 11
1 1 1 1 1 1 1 1 1 1 1
1 2 3 4 5 6 7 8 9 10 11
1 3 6 10 15 21 28 36 45 55 66
1 4 10 20 35 56 84 120 165 220 286
1 5 15 35 70 126 210 330 495 715 1001
1 6 21 56 126 252 462 792 1287 2002 3003
1 7 28 84 210 462 924 1716 3003 5005 8008
1 8 36 120 330 792 1716 3432 6435 11440 19448
1 9 45 165 495 1287 3003 6435 12870 24310 43758
1 10 55 220 715 2002 5005 11440 24310 48620 92378
1 11 66 286 1001 3003 8008 19448 43758 92378 184756
The possible Ways to reach there is = 184756
Process returned 0 (0x0) execution time : 3.162 s
Press any key to continue.
H:\Southeast University\Adv Algo (MSRS) 2021\Lab\Lab 4\Path count pro C/C++ Windows (CR+LF) default Line 38, Col 1, Pos 979 Insert Read/Write default
4:54 PM