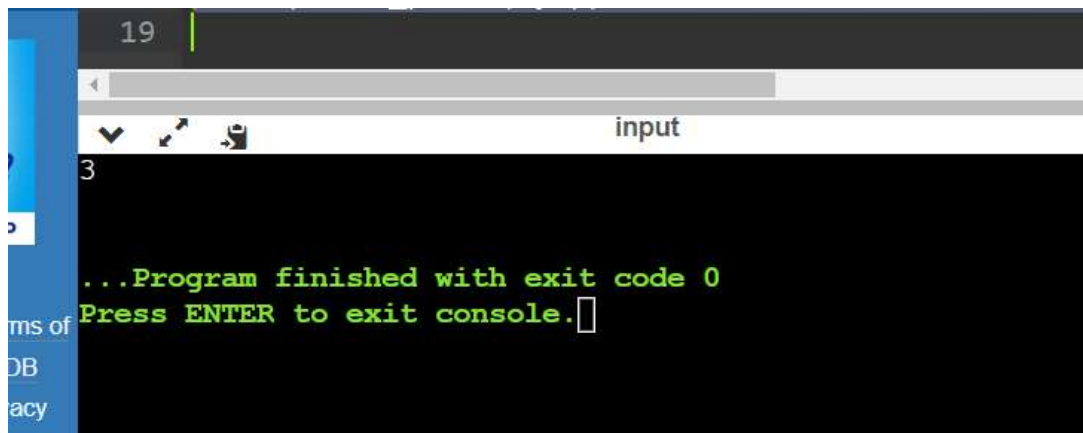


**Problem 5:** Given a matrix  $m \times n$ , count paths from left-top to the right bottom of a matrix with the constraints that from each cell you can either only move to the rightward direction or the downward direction.

```
def count_paths(m, n):  
    dp = [[0] * n for _ in range(m)]  
    dp[0][0] = 1  
  
    for j in range(1, n):  
        dp[0][j] = 1  
  
    for i in range(1, m):  
        dp[i][0] = 1  
  
    for i in range(1, m):  
        for j in range(1, n):  
            dp[i][j] = dp[i-1][j] + dp[i][j-1]  
  
    return dp[m-1][n-1]  
  
m = 2  
n = 3  
print(count_paths(m,n))
```



```
19 |  
input  
3  
...Program finished with exit code 0  
Press ENTER to exit console.
```