

EXERCISE-105 COMPUTING A BINOMIAL COEFFICIENT

PROGRAM

```
def binomial_coefficient(n, k):  
    C = [[0] * (k + 1) for _ in range(n + 1)]  
    for i in range(n + 1):  
        for j in range(min(i, k) + 1):  
            if j == 0 or j == i:  
                C[i][j] = 1  
            else:  
                C[i][j] = C[i - 1][j - 1] + C[i - 1][j]  
    return C[n][k]  
  
n = 5  
k = 2  
print(f"Binomial coefficient C({n}, {k}): {binomial_coefficient(n, k)}")
```

OUTPUT

```
Binomial coefficient C(5, 2): 10
```

TIME COMPLEXITY $O(n \cdot k)$