Let **S(n, k)** be total number of partitions of n elements into k sets. The value of n’th Bell Number is sum of S(n, k) for k = 1 to n.

// A C++ program to find n'th Bell number

#include<iostream>

using namespace std;

int bellNumber(int n)

{

   int bell[n+1][n+1];

   bell[0][0] = 1;

   for (int i=1; i<=n; i++)

   {

      // Explicitly fill for j = 0

      bell[i][0] = bell[i-1][i-1];

      // Fill for remaining values of j

      for (int j=1; j<=i; j++)

         bell[i][j] = bell[i-1][j-1] + bell[i][j-1];

   }

   return bell[n][0];

}

// Driver program

int main()

{

   for (int n=0; n<=5; n++)

      cout << "Bell Number " << n << " is "

           << bellNumber(n) << endl;

   return 0;

}