

```

1  #include<bits/stdc++.h>
2  using namespace std;
3  /*
4   n C r = n! / ( r! (n-r)! );
5
6   5^C3 = 5C0 5C1 5C2 5C3 5C4 5C5
7
8   pascale triangle
9       1
10      1 1
11     1 2 1
12    1 3 3 1
13   1 4 6 4 1
14
15   4c0 4c1 4c2 4c3 4c0
16
17
18 */
19 int fact(int n)
20 {
21     if(n == 0)
22         return 1;
23
24     return fact(n-1) * n;
25 }
26
27 int c(int n, int r)
28 {
29     int t1, t2, t3;
30
31     t1 = fact(n);
32     t2 = fact(r);
33     t3 = fact(n-r);
34
35     return t1/ (t2 * t3);
36
37 }
38
39
40 int C(int n, int r)
41 {
42     if(r == 0 || n == r)
43     {
44         return 1;
45     }
46     else{
47         return C(n-1, r-1) + C(n-1, r);
48     }
49 }
50 }
51
52 int main()
53 {

```

```
54     int n, r;  
55     n = 5;  
56     r = 3;  
57     cout << c(n, r) << endl;  
58     cout << C(n, r) << endl;  
59 }
```