

```

1 //
2 // There are N children, numbered 1,2,...,N.
3 // They have decided to share K candies among themselves.
4 // Here, for each i (1≤i≤N), Child i must receive between 0 and a[i] candies (inclusive).
5 // Also, no candies should be left over.
6 //
7 // Find the number of ways for them to share candies, modulo 10^9 + 7.
8 // Here, two ways are said to be different when there
9 // exists a child who receives a different number of candies.
10 //
11 // Time Complexity: O(NK)
12 //
13
14 #include <bits/stdc++.h>
15 #define ll long long
16
17 using namespace std;
18
19 const int MOD = 1e9 + 7;
20
21 int main() {
22     int n, k;
23     cin >> n >> k;
24
25     vector<int> a(n);
26     for (int i = 0; i < n; i++) cin >> a[i];
27
28     vector<vector<int>> dp(n, vector<int>(k+1, 0));
29     for (int i = k; i ≥ k - a[0]; i--) dp[0][i] = 1;
30
31     for (int i = 1; i < n; i++) {
32         vector<int> pref(k+1);
33         pref[k] = dp[i-1][k];
34         for (int j = k-1; j ≥ 0; j--) {
35             pref[j] = (pref[j+1] + dp[i-1][j]) % MOD;
36         }
37
38         for (int j = 0; j ≤ k; j++) {
39             // dp[i][j] = dp[i-1][j+(0...a[i])]
40             dp[i][j] = (pref[j] - (j+a[i]+1 ≤ k ? pref[j+a[i]+1] : 0) + MOD) % MOD;
41         }
42     }
43
44     cout << dp[n-1][0] << endl;
45     return 0;
46 }

```