Number of Music Playlists

Your music player contains n different songs. You want to listen to goal songs (not necessarily different) during your trip. To avoid boredom, you will create a playlist so that:

- Every song is played **at least once**.
- A song can only be played again only if k other songs have been played.

Given n, goal, and k, return *the number of possible playlists that you can create*. Since the answer can be very large, return it **modulo** $10^9 + 7$.

Example 1:

Input: n = 3, goal = 3, k = 1

Output: 6

Explanation: There are 6 possible playlists: [1, 2, 3], [1, 3, 2], [2, 1, 3], [2, 3, 1], [3, 1, 2], and [3, 2, 1].

Example 2:

Input: n = 2, goal = 3, k = 0

Output: 6

Explanation: There are 6 possible playlists: [1, 1, 2], [1, 2, 1], [2, 1, 1], [2, 2, 1], [2, 1, 2], and [1, 2, 2].

Example 3:

Input: n = 2, goal = 3, k = 1

Output: 2

Explanation: There are 2 possible playlists: [1, 2, 1] and [2, 1, 2].

Constraints:

- 0 <= k < n <= goal <= 100