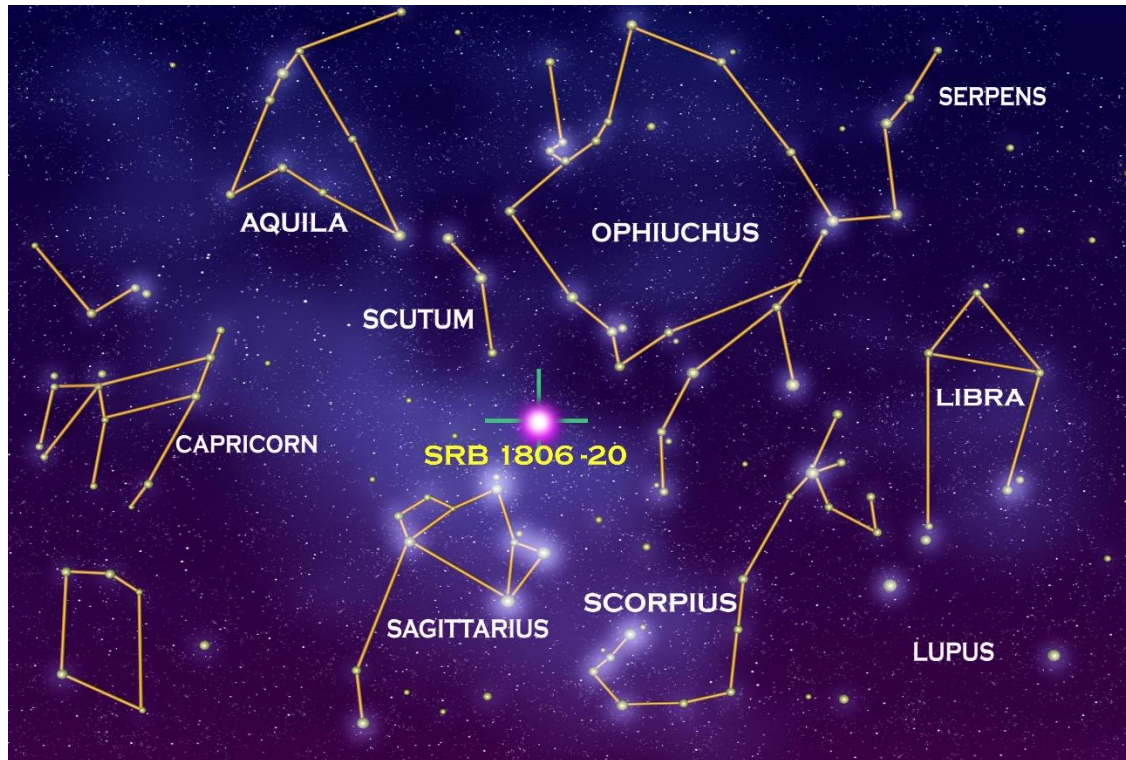


Title: Constellations

This question is graded for 1%

Problem Statement:



Abby the Astronaut wants to create new constellations. Given a star map with **n different stars**, he wants to find the number of different **configurations** he can make to the star map.

He can make a **constellation** from the star map by grouping up x different stars together, where $a \leq x \leq b$. He needs to fill the star map with different constellations until no more constellations are possible to be made for it to count as a valid **configuration**. Every star can only be part of at most 1 constellation.

Note that the order where he fills up constellations matters, ie: $[1] [2]$ is different from $[2] [1]$, but $[1, 2]$ is the same as $[2, 1]$.

Input:

In a single line, integers n, a, b . $(\max(1, n/10) \leq a \leq b \leq n \leq 50) (b - a \leq 5)$

Output:

In a single line, the total number of configurations he can make to a star map with n stars, constellations of size a to b , modulo $10^9 + 7$.

Example:

Sample Input 1:

3 1 3

Sample Output 1:

13

Sample Input 2:

7 6 7

Sample Output 2:

8

Explanation:

For Sample Input 1, he can make these 13 configurations:

Config 1: [1, 2, 3]

Config 2: [1, 2] [3]

Config 3: [1, 3] [2]

Config 4: [2, 3] [1]

Config 5: [1] [2, 3]

Config 6: [2] [1, 3]

Config 7: [3] [1, 2]

Config 8: [1] [2] [3]

Config 9: [1] [3] [2]

Config 10: [2] [1] [3]

Config 11: [2] [3] [1]

Config 12: [3] [1] [2]

Config 13: [3] [2] [1]

For Sample Input 2, there are 7 possible configurations with 1 constellation of 6 stars and 1 star unpicked, and 1 configuration with 1 constellation of 7 stars only.

Appendix: Modulo Distributive Rules:

$$(a + b) \% c = ((a \% c) + (b \% c)) \% c$$

$$(a * b) \% c = ((a \% c) * (b \% c)) \% c$$

$$(a - b) \% c = ((a \% c) - (b \% c)) \% c$$

Image source: https://www.nasa.gov/sites/default/files/thumbnails/image/constellation_.jpg