1   Crashing the vehicles

We are given an array vehicles of integers representing vehicles in a row.For each vehicle, the absolute value represents its size, and the sign represents its direction (positive meaning right, negative meaning left). Each vehicle moves at the same speed.

Find out the vehicles which are not crashed after all collisions. If two vehicles meet, the smaller one will crash.

If both are the same size, both will crash. Two vehicles moving in the same direction will never meet.

Input/Output

Input	Output	Comments
5 10 -5	**5 10**	● The 10 and -5 collide and -5 will be crashed resulting in 10. ● The 5 and 10 never collide.
8 -8	**-1**	● The 8 and -8 collide and crash each other. ● all vehicles will crash.so we will print -1.

2   Package Transport

The i-th package has weight package[i], and each boat can carry a maximum weight limit.

Each boat carries at most 2 packages at the same time, provided the sum of the weight of those packages is at most limit.

Return the minimum number of boats to carry every given package.

(It is guaranteed each package can be carried by boat.)

Note:

1 <= package.length <= 50000

1 <= package[i] <= limit <= 30000

Input/Output

Input	Output	Comments

3 2 2 1
3
	3	● The first line 3 2 2 1
		    ○ represents the weights of packages.
		● The second line 3
		    ○ maximum weight limit of a boat
		● *we need 3 boats to carry all these packages*
		
		(1, 2), (2) and (3)

3   Ships at minimum cost

There are n islands connected by m ships.

Each ship starts from island u and arrives at v with a price w.

Now given all the islands and ships, together with starting island src and the destination dst,

your task is to find the minimum price from src to dst with up to k stops.

If there is no such route, output -1.

Note:

The number of nodes n will be in range [1, 100], with nodes labeled from 0 to n - 1.

k is in the range of [0, n - 1].

There will not be any duplicated ships or self cycles.

Input	Output	Comments

3 3
0 1 100
1 2 100
0 2 500
0 2 1
	200	● First line 3 3
		  ○ 3 – Number of Islands.
		  ○ 3 – Number of ships
		● next 3 lines represent ships
		  ○ The format of each ship will be (src, dst, price).
		
		● Last line 0 2 1,
		  ○ 0 - represents source
		  ○ 2 - represents destination
		  ○ 1 - represents the number of stops
		The minimum price from island 0 to island 2 with at most 1 stop costs 200.

3 3 0 1 100 1 2 100 0 2 500 0 2 0	500	The minimum price from island 0 to island 2 with at most 0 stop costs 500.