

# Lazy Bob

Alice and Bob are to prepare some food items for a party. They decide on preparing  $P$  items for the party. Now, they have a recipe book which contains  $N$  recipes which they can use. For the  $i$ th recipe, they know the amount of time it takes Alice to prepare that item,  $a_i$ , and the amount of time it takes Bob to prepare that item,  $b_i$ . They decide on the following mechanism for choosing the dishes:

- Alice will choose  $P$  recipes from the book and pass them on to Bob.
- Bob will choose  $K$  recipes from the  $P$  recipes given to him by Alice which he will be preparing himself.
- Alice will prepare the remaining items. (The ones which are not chosen by Bob)

Alice knows that when she gives the  $P$  recipes to Bob, while choosing his  $K$  items, he will first try to minimize the time taken by Alice to prepare the remaining items and then try to minimize the time taken by him to prepare his items. Alice wants to select the  $P$  recipes in such a way that, it maximizes the final time taken by Bob to prepare the food and then if there are multiple ways, maximizes the time taken by her.

Your task is to help Alice in selecting the  $P$  recipes.

## Input

The first line of the input contains 3 integers  $N$ ,  $P$ ,  $K$ .  $N$  lines follow.

The  $(i + 1)$ th line contains 2 integers  $a_i$  and  $b_i$  - the time taken by Alice to prepare the  $i$ th item and the time taken by Bob to prepare it respectively.

## Output

In sorted order, the indices of the  $P$  dishes Alice should choose. The indices should be space separated.

## Example

Input:

```
5 3 3
10 18
18 17
10 20
20 18
20 18
```

Output :

```
2 4 5
```

(Alice selects the recipes with times as (18, 17), (20, 18), (20, 18).)

**Constraints** $1 \leq N \leq 100000$  $1 \leq P \leq N$  $1 \leq K \leq P$  $1 \leq a_i, b_i \leq 1000000000$ **Time Limit:** 3 sec**Composer:** Nishant Krishan