

## Problem 149: Assemble the Team

Difficulty: Medium

Author: Brett Reynolds, Annapolis Junction, Maryland, United States

Originally Published: Code Quest 2021

### Problem Background

The People in Dark Suits have received word that aliens are planning to invade the Earth, and need to put together a team to defend the planet. They need as much help as they can get, but they also need to make sure the team can work together effectively, or else the human race is doomed! Fortunately, using advanced alien technology, the People in Dark Suits are able to perfectly represent their agent's personalities with a numeric score. Agents with similar scores are more likely to get along, but agents with very different scores could end up fighting each other instead of the invaders.

Your task is to put together as large a team as you possibly can while making sure the team can remain focused on the task at hand, and not be distracted by personal squabbles. The fate of the Earth depends on you!

### Problem Description

Each agent of the People in Dark Suits is represented by a single uppercase letter. The personnel records you have access to associate those letters with a numeric score between 1 and 100, inclusive. This is the agent's personality score. As mentioned above, two agents with a large gap between their personality scores are unlikely to work well together. Due to the serious nature of this mission, you need to ensure that the maximum difference in personality scores between any two members of your team is no greater than 10. At the same time, you need to select as many team members as possible that fit within this range. Once your team is selected, you'll need to notify the agents of their assignments.

In the event you are able to form two or more teams of equal size that meet the personality requirements, select the team with the agents that have the letters appearing earlier in the alphabet. These agents have seniority and are more likely to be successful against the invaders. For example, if one team contains Agent A, and another contains Agent B, pick the team with Agent A. If Agent A is in both teams, break the tie with the next agents alphabetically, and so on.

### Sample Input

The first line of your program's input, received from the standard input channel, will contain a positive integer representing the number of test cases. Each test case will include a single line of text containing information about the agents, separated by spaces. Each agent's information will be presented as follows:

From Lockheed Martin Code Quest™ Academy - [www.lmcodequestacademy.com](http://www.lmcodequestacademy.com)

- An uppercase letter, representing the agent's designation
- An equals sign (=)
- A positive integer between 1 and 100 inclusive, representing the agent's personality score

2

A=10 B=22 C=15 D=18 E=4

F=66 G=52 H=54 I=56 J=58 K=60 L=62 M=64

## Sample Output

For each test case, your program must print the letters of the agents selected for the team on a single line, in alphabetical order, separated by spaces.

A C D

F I J K L M