Football

Background / task

Football (or soccer) is very popular game throughout whole world. We have information about results for series of matches, but we would like to see them in simple table.

Therefore your task is to convert a series of football matches to league table.

Input

First line will contain number of following test cases. Each test case will start with 4 lines, each containing information about one team – shortcut followed by single space character and full team name. Shortcut will always have 3 characters. Information about matches will be written after these 4 lines, separated by one empty line. Match information will be of form Team1 - Team2 a:b, where a and b are goals forced by respective teams.

The league will always consist of 4 teams and their names will always contain at least 1 and will be shorter than 100 characters (alphanumeric and space). Number of forced goals will always be less than 10. League will always be in its final state, i.e. all matches will be finished. Two consecutive test cases will be separated by empty line.

Output

You should output league table. Characters used for joints are plus signs "+", pipes "|" for vertical line segments and minus signs "-" for horizontal lines. Cells with coordinates [i, i] should be filled with upper X surrounded by one space on each side. Teams should be sorted according to their definition in first 4 lines of input.

Consult sample output for correct syntax. Two consecutive tables should be separated by empty line.

Sample Input

```
VLC FC Valencia
BCN FC Barcelona
MAD Real Madrid
SEV FC Sevilla
FC Valencia - Real Madrid 4:3
FC Barcelona - FC Sevilla 2:1
FC Sevilla - Real Madrid 2:3
Real Madrid - FC Barcelona 0:1
FC Barcelona - FC Valencia 2:1
FC Valencia - FC Sevilla 1:0
FC Barcelona - Real Madrid 2:0
FC Valencia - FC Barcelona 1:1
FC Sevilla - FC Valencia 1:0
Real Madrid - FC Valencia 2:1
FC Sevilla - FC Barcelona 0:1
Real Madrid - FC Sevilla 2:0
```

Sample Output