CSE 304 Final Exam (b)

I. Question

We have the following information: Emrah loves Selin, Selin loves Emrah, Nurgül and Onat, Nurgül loves Cemal, Onat and Sibel, Cemal loves Emrah and Selin, Onat loves Selin and Nurgül. Two people who love each other can go to cinema together. Two people who go to cinema together and are of opposite sex can marry.

a) Write a Scheme function **go_cinema** that finds the pairs who can go to cinema together. (Do not forget to define the data given above.)
b) Write a Scheme function **can_marry** that finds the pairs who can marry.

II. Question

We have the following information: Emrah loves Selin, Selin loves Emrah, Nurgül and Onat, Nurgül loves Cemal, Onat and Sibel, Cemal loves Emrah and Selin, Onat loves Selin and Nurgül. Two people who love each other can go to cinema together. Two people who go to cinema together and are of opposite sex can marry.

a) Write a Prolog predicate **go_cinema** that finds the pairs who can go to cinema together. (Do not forget to define the data given above.)
b) Write a Prolog predicate **can_marry** that finds the pairs who can marry.

III. Question

We have a list of data in the following format:

$$((team_{1a} team_{1b} score_{1a} score_{1b}) \ \ldots)$$

where each sublist denotes a football match between two teams and the score of the match. For instance, (Fenerbahçe Galatasaray 3 1) means that Fenerbahçe won the match against Galatasaray with a score of 3-1. Write a Scheme function **points** that, given a list in the above format and a team, finds the total points earned by that team. For each match, the winner team earns 3 points and the other team does not earn any point. In the case of a tie, both teams earn 1 point.

IV. Question

We have a list of data in the following format:

$$[[team_{1a}, team_{1b}, score_{1a}, score_{1b}], \ \ldots]$$

where each sublist denotes a football match between two teams and the score of the match. For instance, [Fenerbahçe, Galatasaray, 1, 3] means that Galatasaray won the match against Fenerbahçe with a score of 3-1. Write a Prolog predicate **points** that, given a list in the above format and a team, finds the total points earned by that team. For each match, the winner team earns 3 points and the other team does not earn any point. In the case of a tie, both teams earn 1 point.