

All documents allowed. Read all directions carefully and write well-argued answers.

Try to be concise but precise.

You can write your answers in English or French.

Imagine that you are working as Data Analyst for a national soccer team. You participate in the preparation of the team to a major competition.

1. (4 points) You have detailed information about the last 20 matches of the team, in particular the list of passes, provided as list $(p1,p2,m1)$, meaning that player 1 has made a successful pass to player 2 during match $m1$. Propose an analysis of this dataset using network analysis.

2. (4 points) We would like to design specific strategies against different opponents. As we cannot prepare a specific strategy against each possible team, we would like to create 3 main categories of opponents, based on their playing style, strength and weaknesses.

For each other team, we have the following information: average number of goals scored per match, average number of goals conceded per match, average ball possession, current rank in the FIFA international ranking.

Explain how you would proceed to create those 3 groups, and then how you would characterise these groups.