One of the regulations of the International Rugby Board (IRB) states that for a player to be eligible to play for a given country, the player’s father or mother or grandfather or grandmother must have been born in that country. Assume that there is a complete genealogical database consisting of Prolog clauses of the form

\[ \text{person}(P, B, F, M), \]

where \( P \) is a person’s name, \( B \) is the country of \( P \)’s birth, \( F \) is their father’s name and \( M \) is their mother’s name. For example, the clause

\[ \text{person}(\text{bruce}, \text{australia}, \text{rhodri}, \text{bronwyn}). \]

might appear in such a database. Further assume that names in the database are constructed so as to refer uniquely to individuals. Write Prolog clauses defining the predicate \( \text{eligible} \) such that goals of the form \( \text{eligible}(P, C) \) succeed if and only if person \( P \) is eligible to play for country \( C \) according to the above regulation.

[10 marks]

Given a list of players on a given country’s team, define a predicate \( \text{checkteam} \) that will check each member of the team for eligibility according to the \( \text{eligible} \) predicate, and furthermore check that each player appears on the list only once. The \( \text{checkteam} \) goal will fail if any player is ineligible or if any player is listed more than once.

[10 marks]