Normalization:

Sachin Tendulkar	Maharashtra	11	India	Greg Chappel	Pakistan Pakistan England	12/3/03 25/3/03 29/3/03	95 22 88
Adam Gilchrist	Western Australia	34	Australia	John Buchanan	S. Africa S. Africa New Zealand	10/3/03 11/3/03 12/3/03	42 61 62

1. Is the relation in 1NF? Why or why not? If not, reduce the relation to 1NF.

The above table is not in 1NF because, it contains multivalued attributes.

The decomposition of Player table into 1NF is shown below:

Name	State	No	Team	Coach	Game Against	Date	Runs
Sachin Tendulkar	Maharashtra	11	India	Greg Chappel	Pakistan	12/3/03	95
Sachin Tendulkar	Maharashtra	11	India	Greg Chappel	Pakistan	25/3/03	22
Sachin Tendulkar	Maharashtra	11	India	Greg Chappel	England	29/3/03	88
Adam Gilchrist	Western Australia	34	Australia	John Buchanan	S. Africa	10/3/03	42
Adam Gilchrist	Western Australia	34	Australia	John Buchanan	S. Africa	11/3/03	61
Adam Gilchrist	Western Australia	34	Australia	John Buchanan	New Zealand	12/3/03	62

2) Using your knowledge of cricket and from the instance, identify the functional dependencies for this relation.

The functional dependency is a relationship that exists between two attributes. It typically exists between the primary key and non-key attribute within a table.

For Example, from above table player no can uniquely identify the player name of player table because if we know the player no we can tell the player name associated with it.

1. PlayerNo → PlayerName

Hence, here we can say that PlayerName is functionally dependent on PlayerNo.

3)Is the table you created in question 1 also in 2NF? If not decompose the relation into ones that are in 2NF.

Name	State	Player No	Country	Coach
Sachin Tendulkar	Maharashtra	11	India	Greg Chappel
Adam Gilchrist	Western Australia	34	Australia	John Buchanan

Player No	Game Against	Date	Runs
11	Pakistan	12/3/03	95
11	Pakistan	25/3/03	22
11	England	29/3/03	88
34	South Africa	10/3/03	42
34	South Africa	11/3/03	61
34	New Zealand	12/3/03	62