ANNEXURE F: SOLUTION FOR QUESTION 2

QUESTION 2.1: SQL code

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======================================================================
  Question 2.1: 2.1.1(3), 2.1.2(4), 2.1.3(4), 2.1.4(5), 2.1.5 (3)
======================================================================

2.1.1: SELECT PlayerSurname, PlayerName
       FROM tblPlayers WHERE SkillsLevel = 10

2.1.2: SELECT Coach, TeamName
       FROM tblTeams
       WHERE TeamName Like "%B"

2.1.3: SELECT TeamName, Coach,
       (NumberOfGamesWon/NumberOfGamesPlayed*100)
       AS [PercentageGamesWon]
       FROM tblTeams
       WHERE TeamName = "' + sTeam + '"

2.1.4: SELECT TeamName, ROUND(AVG(SkillsLevel),1)
       AS [AverageSkillsLevel]
       FROM tblPlayers
       GROUP BY TeamName HAVING AVG(SkillsLevel) > 6

2.1.5: UPDATE tblTeams
       SET NumberOfGamesWon = NumberOfGamesWon + 1
       WHERE TeamName <> "u/14 B"
```

QUESTION 2.2: DATABASE MANIPULATION using Delphi Code

```
// {$REGION 'QUESTION 2.2'}

======================================================================
                  Question 2.2.1 = 11 marks
======================================================================
procedure TfrmDBQuestion2.btnQ2_2_1Click(Sender: TObject);
var
  tFile: textfile;
  iCnt, iYear: integer;
begin
  AssignFile(tFile, 'Junior18A.txt');
  Rewrite(tFile);
  tblPlayers.first;
  iCnt := 0;
  while not tblPlayers.eof do
  begin
    iYear := strToInt(copy(tblPlayers['IDNumber'], 1, 2));
    if (tblPlayers['TeamName'] = 'u/18 A') AND(iYear >= 3) then
      begin
        Writeln(tFile,
         tblPlayers['PlayerSurname'] + ' ' + tblPlayers['PlayerName']);
        inc(iCnt);
      end;
    tblPlayers.Next;
  end;
```

```
  CloseFile(tFile);
  lblQ2_2_1.Caption := 'Number of young players: ' + IntToStr(iCnt);

  // Provided code
  dbCONN.setupGrids(dbgrdONE, dbgrdMANY, dbgrdSQL);
end;
```

```
=====================================================================
                    Question 2.2.2 = 10 marks
=====================================================================
procedure TfrmDBQuestion2.btnQ2_2_2Click(Sender: TObject);
var
  sOut: String; // variable to save selected team

begin
  // -- Provided code  ----
  redQ2_2_2.Clear;
  redQ2_2_2.Paragraph.TabCount := 2;
  redQ2_2_2.Paragraph.Tab[0] := 100;
  redQ2_2_2.Paragraph.Tab[1] := 200;
  redQ2_2_2.Lines.Add('TeamName' + #9 + 'Coach' + #9 + 'Goalkeeper');

  // --------------------------------------------------
  // Type your code here:

  tblTeams.first;
  while NOT tblTeams.eof do
  begin
    sOut := tblTeams['TeamName'] + #9 + tblTeams['Coach'] + #9;
    tblPlayers.first;
    while NOT tblPlayers.eof do
    begin
      if (tblTeams['TeamName'] = tblPlayers['TeamName']) AND
(tblPlayers['GoalKeeper'] = true)
        then
      begin
        sOut := sOut + tblPlayers['PlayerSurname'] + ', ' + tblPlayers
          ['PlayerName'];
      end;
      tblPlayers.Next;
    end;
    tblTeams.Next;
    redQ2_2_2.Lines.Add(sOut);
  end;
```



```
===================================================================
{$REGION 'Provided code: Setup DB connections - DO NOT CHANGE!'}
===================================================================
procedure TfrmDBQuestion2.bmbRestoreDBClick(Sender: TObject);
begin
  // restore the database
  dbCONN.RestoreDatabase;
  redQ2_2_2.Clear;
  dbCONN.setupControls(grpTB_1,grpTB_2);
  dbCONN.setupGrids(dbgrdONE, dbgrdMANY, dbgrdSQL);
end;

// ========================================================
procedure TfrmDBQuestion2.FormClose(Sender: TObject; var Action:
TCloseAction);
begin // disconnect from database and close all open connections
  dbCONN.dbDisconnect;
end;

procedure TfrmDBQuestion2.FormCreate(Sender: TObject);
begin
  CurrencyString := 'R';
end;

// ========================================================
procedure TfrmDBQuestion2.FormShow(Sender: TObject);
begin // Sets up the connection to database and opens the tables.
  dbCONN := TConnection.Create;
  dbCONN.dbConnect;
  tblTeams := dbCONN.tblOne;
  tblPlayers := dbCONN.tblMany;

  dbCONN.setupGrids(dbgrdONE, dbgrdMANY, dbgrdSQL);
  pgcDBAdmin.ActivePageIndex := 0;
end;
// ========================================================
// {$ENDREGION}

end.
```