ANNEXURE H: SOLUTION FOR QUESTION 4

```
unit Question4_U;

interface

uses
  Windows, Messages, SysUtils, Variants, Classes, Graphics, Controls,
Forms, Dialogs, StdCtrls, ComCtrls;

type
  TfrmQuestion4 = class(TForm)
    Label1: TLabel;
    redDisplay: TRichEdit;
    Label2: TLabel;
    btnload: TButton;
    btnRemoveDuplicates: TButton;
    btnMasterPlayers: TButton;
    procedurebtnloadClick(Sender: TObject);
    procedure display;
    procedurebtnRemoveDuplicatesClick(Sender: TObject);
    procedurebtnMasterPlayersClick(Sender: TObject);

  private
  { Private declarations }
  public
  { Public declarations }
  end;

var
  frmQuestion4: TfrmQuestion4;
  arrNames: array [1..50] of String;
  arrScores: array [1..50] of Integer;
  iCount: Integer = 0;

  arrMasters: array[1..30] of String;
  iMastCount: Integer;

implementation

{$R *.dfm}

// ========================================================================
// Question 4.1
// ========================================================================

procedure TfrmQuestion4.btnRemoveDuplicatesClick(Sender: TObject);
var
  arrTempNames: array [1..50] of String;
  arrTempScores: array [1..50] of Integer;
  i, j, newCount : Integer;
  found : Boolean;
begin
  newCount := 0;
  for i := 1 to iCount do
```

```
   begin
    found := false;
    for j := 1 to  newCount do
      begin
       if arrNames[i] = arrTempNames[j] then
         begin
           found := true;
           if arrScores[i] > arrTempScores[j] then
             arrTempScores[j] := arrScores[i];
        end;
     end;
     if NOT found then
      begin
          Inc(newCount);
          arrTempNames[newCount] := arrNames[i];
          arrTempScores[newCount] := arrScores[i];
       end;
     end;
     iCount := newCount;
     for i := 1 to iCount do
      begin
         arrNames[i] := arrTempNames[i];
        arrScores[i] := arrTempScores[i];
      end;
  display;
end;

// ========================================================================
// Question 4.2
// ========================================================================

procedure TfrmQuestion4.btnMasterPlayersClick(Sender: TObject);
var
  i, j, iTot, iAvg : Integer;
  sTemp : String;
begin
  iTot := 0;
  for i := 1 to iCount do
     iTot := iTot + arrScores[i];
  iAvg := Round(iTot / iCount);

iMastCount := 0;
for i := 1 to iCount do
  ifarrScores[i] >iAvg then
  begin
    Inc(iMastCount);
    arrMasters[iMastCount] := arrNames[i] + '#' +
                      IntToStr(arrScores[i]);
  end;

for i := 1 to iMastCount - 1 do
  for j := i + 1 to iMastCount do
    if arrMasters[i] > arrMasters[j]  then
     begin
       sTemp := arrMasters[i];
       arrMasters[i] := arrMasters[j];
```

```
        arrMasters[j] := sTemp;
      end;

   redDisplay.Clear;
   redDisplay.Lines.Add('MASTER PLAYERS');

   redDisplay.Lines.Add('Scores above an average of ' + IntToStr(iAvg));
   for i := 1 to iMastCount do
     redDisplay.Lines.Add(arrMasters[i]);
end;
```

// Provided Code

```
procedure TfrmQuestion4.btnloadClick(Sender: TObject);
var
  tScoresFile: TextFile;
  sLine : String;
  p: Integer;
begin
  iCount := 0;
  AssignFile(tScoresFile, 'Scores.txt');
  Reset(tScoresFile);
  while NOT EOF(tScoresFile) do
   begin
      Inc(iCount);
      Readln(tScoresFile, sLine);
      p := Pos(',',sLine);
      arrNames[iCount] := Copy(sLine,1,p-1);
      arrScores[iCount] := StrToInt(Copy(sLine,p+1));
   end;
  CloseFile(tScoresFile);
  display;
end;

procedure TfrmQuestion4.display;
var
  i : Integer;
begin
  redDisplay.clear;
  redDisplay.Paragraph.TabCount := 1;
  redDisplay.Paragraph.Tab[0] := 120;
  redDisplay.Lines.Add('NAME' + #9 + 'SCORE');
  for i := 1 to iCount do
   begin
     redDisplay.Lines.Add(arrNames[i] + #9 + IntToStr(arrScores[i]));
   end;
end;

end.
```