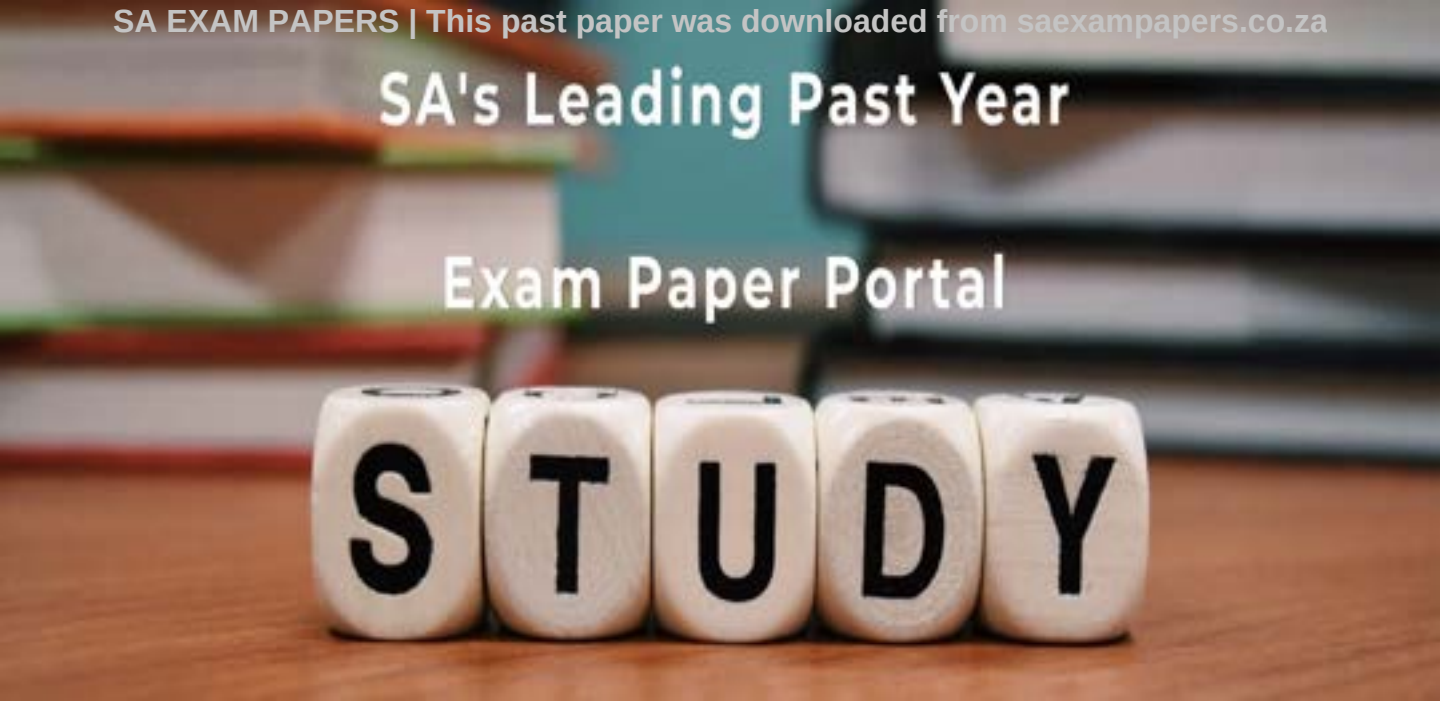

Province of the
EASTERN CAPE
EDUCATION

Iphondo leMpuma Kapa: Isebe leMfundo
Provinsie van die Oos Kaap: Department van Onderwys
Porafensie Ya Kapa Botjhabela: Lefapha la Thuto

NASIONALE SENIORSERTIFIKAAT

GRAAD 12

SEPTEMBER 2024

INLIGTINGSTEGNOLOGIE V1
NASIENRIGLYN

PUNTE: **150**

Hierdie nasienriglyn bestaan uit 21 bladsye.

NAAM VAN LEERDER:				
TOTAAL VRAAG 1	**TOTAAL VRAAG 2**	**TOTAAL VRAAG 3**	**TOTAAL VRAAG 4**	**TOTAAL**
/35	**/45**	**/40**	**/30**	**/150**

	VRAAG 1	MAKS PUNTE	PUNTE BEHAAL
1.1	**KNOPPIE: [V1.1 – Paneel-eienskappe]** Stel die fonttipe na Arial. ✓ Stel die fontgrootte na 16. ✓ Stel die font na Bold ✓ en Italic. ✓ Stel die teks om aan die regterkant van die paneel te vertoon. ✓ Verander die ‘caption’ na ‘Crypto Exchange’. ✓	**6**	
1.2	**KNOPPIE: [V1.2 – Deel Munte]** Kry toevoer van redigeerblokkie ✓ Bereken gedeelte deur totaal van 12 te gebruik (3+4+5) ✓ Bereken vir elke persoon (gedeelte/12*toevoer van redigeerblokkie) ✓ Gebruik DIV/trunc/floor om van desimale ontslae te raak ✓ Bereken oorblywende munte ✓ Vertoon in die label Tom se gedeelte ✓ Jerry se gedeelte ✓ Andile se gedeelte ✓ Oorblywende munte ✓ Korrekte gebruik van enter spasie en vertoon van apostroof na elke persoon se naam – aparte reëls ✓	**10**	
1.3	**KNOPPIE: [V1.3 – Wagwoord]** Inisialiseer wagwoordstring ✓ Lus vir elke letter in "CRYPTO" (6 keer) ✓ Inisialiseer ’n nommer veranderlike na 0 ✓ Kondisionele Lus met korrekte voorwaardes ✓ Vermeerder die veranderlike ✓ Skep ’n ewekansige getal ✓ in korrekte reeks ✓ Kry die ooreenstemmende letter vir die ewekansige getal ✓ Bou wagwoordstring: ✓ sluit getal in ✓ en die kleinletter ✓ van die karakter. Vertoon die wagwoord in die byskrif (‘label’). ✓	**12**	

1.4	**KNOPPIE: [V1.4 – ASCII Kuns]**
	
	Kry die lengte van die langste reël en ken dit aan iLengte toe ✓
	
	Inisialiseer 'n leë stringveranderlike ✓
	
	// Bou die patroon deur '&'-karakter te gebruik
	Lus ✓
	Voeg '&'-karakter by stringveranderlike ✓
	Vertoon stringveranderlike in 'rich edit' ✓
	
	// Verwyder '&'-karakter van die begin van elke reël
	Lus
	Verwyder die eerste karakter van stringverander/Bou 'n string ✓
	Vertoon stringveranderlike in 'rich edit' ✓
		7	

	TOTAAL VRAAG 1	**35**	

VRAAG 2		MAKS PUNTE	PUNTE BEHAAL
2.1.1	**Knoppie [V2.1.1]** 'SELECT * FROM tblLede ORDER BY Geboortedatum DESC' SELECT * (all fields) ✓ FROM korrekte tabel ✓ ORDER BY korrekte veld DESC ✓	**3**	
2.1.2	**Knoppie [V2.1.2]** 'SELECT KriptoTipe, Sum(Bedrag) AS [Bedrag] FROM tblKripto GROUP BY KriptoTipe' SELECT KriptoTipe ✓, Sum(korrekte veld) ✓ FROM korrekte tabel ✓ GROUP BY korrekte veld ✓	**4**	
2.1.3	**Knoppie [V2.1.3]** 'SELECT count(Geboortedatum) AS [Verjaarsdae in ' + arrMonths[StrToInt(sLine)] + '] FROM tblLede WHERE Month(Geboortedatum) = ' + sLine SELECT count(korrekte veld) ✓AS [Verjaarsdae in korrekte maand ✓] ✓ FROM korrekte tabel ✓ WHERE Month(korrekte veld) ✓ = toevoerveranderlike ✓	**6**	
2.1.4	**Knoppie [V2.1.4]** 'SELECT Van, Naam, KriptoTipe, Bedrag, format(Bedrag * ' + FloatToStr(rLitecoin) + ',"Currency") AS [Value] FROM tblLede, tblKripto WHERE tblLede.LidID = tblKripto.LidID AND KriptoTipe = "Litecoin" AND (Bedrag * ' + FloatToStr(rLitecoin) +') > 5500' SELECT Van, Naam, KriptoTipe, Bedrag ✓ , Format (Bedrag * LiteCoin waarde ✓, "Currency" ✓) AS [Bedrag] ✓, FROM albei tabelle ✓ (tblLede, tblKripto) WHERE verbinding tussen tabelle ✓ (tblLede.LidID = tblKripto.LidID) AND KriptoTipe = "Litecoin" ✓AND (Bedrag * Litecoin waarde) ✓ > 5500' ✓	**9**	
2.1.5	**Knoppie [V2.1.5]** 'DELETE FROM tblKripto WHERE KriptoTipe = "Ripple" ' DELETE FROM korrekte tabel ✓ WHERE korrekte veld ✓ = "Ripple" ✓	**3**	
2.1.6	**Knoppie [V2.1.6]** 'UPDATE tblKripto SET Bedrag = Bedrag / 2 WHERE KriptoTipe = "Bitcoin" ' UPDATE korrekte tabel ✓ SET Bedrag = Bedrag / 2 ✓ WHERE KriptoTipe = "Bitcoin" ✓	**3**	

2.2.1	**Knoppie [V2.2.1]** Toets vir geldige voorwaarde: korrekte Van ✓ = dataveldwaarde ✓ Vertoon die korrekte velde (Naam; Van; E-Pos; Geslag) ✓ in die regte formaat ✓ Gaan na volgende rekord in tabel ✓	**5**	
2.2.2	**Knoppie [V2.2.2]** Instansieer ✓ en Inisialiseer ✓ die tellers en geslagtipes (standaard veranderlikes of skikkings) Toets vir geldige voorwaarde: korrekte geslag = dataveldwaarde✓ Vermeerder die regte teller ✓ Vermeerder Totaal ✓ Gaan na volgende rekord in tabel ✓ Toets of geldige voorwaarde: Totaal = aantal rekords in Lede-tabel ✓ Stringveranderlike ← Korrek ✓ else Stringveranderlike ← Foutief ✓ Vertoon die korrekte velde (Male, Female, Genderfluid, Non-binary) in die korrekte formaat ✓✓ Vertoon stringveranderlike korrek of foutief ✓	**12**	
	TOTAAL VRAAG 2	**45**	

VRAAG 3		MAKS. PUNTE	PUNTE BEHAAL
3.1.1	**Konstruktor Create** Konstruktor definisie met drie parameters ✓ met die korrekte datatipes ✓ Ken drie parameters aan attribute toe ✓✓ Stel oorblywende attribute na nul ✓	**5**	
3.1.2	**Toegangsmetode – getKriptoNaam** Funksie definisie met String 'return'-tipe ✓ If/Case stelling ✓ Korrekte verwerking van fKripto-attribuut na kripto-eenheidnaam ✓ 'Return' die kripto-eenheidnaam ✓	**4**	
3.1.3	**Wysigingsmetode – setBedrag** Prosedure definisie ✓ met 'Real' parameterwaarde ✓ Bepaal die wisselkoers gebaseer op reëls (enige metode): Bitcoin = 0.000001 *1 / 1000000* (gegee) Ethereum = 0.00002 ✓ *1 / 50000* Litecoin = 0.0004 ✓ *1 / 2500* Ken fBedrag na die parameter ontvang * wisselkoers aan fBedrag ✓ fOorspronklikeWaarde na fOorspronklike Waarde ✓ + parameter ontvang ✓	**7**	
3.1.4	**Wysigingsmetode – setWaarde** Prosedure definisie ✓ Bepaal die wisselkoers gebaseer op die reëls (enige metode) Bitcoin = Ewekansig: Reeks 400 000 – 1 600 000 (albei ingesluit) ✓ Ethereum = Ewekansig: Reeks 25 000 – 75 000 (albei ingesluit) ✓ Litecoin = Ewekansig: Reeks 500 – 3000 (albei ingesluit) ✓ Ken fBedrag * wisselkoers aan fHuidigeWaarde ✓	**5**	
3.1.5	**'Auxiliary'-metode – berekenWinsVerlies** Funksie definisie met string 'return'-tipe ✓ Toets of (fHuidigeWaarde > fOorspronklikeWaarde) ✓ Return "Wins" ✓ Else Toets of (fHuidigeWaarde < fOorspronklikeWaarde) ✓ Return "Verlies" ✓ Else Return "Gelyk" ✓	**6**	
	Subtotaal: Objekklas	**[27]**	

3.2.1	**Knoppie [3.2.1 - Instansieer Kripto-objek]** Kry toevoer van komponente ✓ Instansieer objek: objKripto := ✓ TKripto.Create ✓ parameters met korrekte datatipe ✓ en volgorde ✓ Vertoon boodskap wat aandui dat objek geskep is ✓	**6**	
3.2.2	**Knoppie [3.2.2 – Koop Kripto]** Kry prys van die redigeerblokkie ✓ Gebruik setBedrag-metode met prysargument ✓ om attribuut te stel	**2**	
3.2.3	**Timer [tmrLive]** Gebruik setWaarde metode ✓ om attribuut te stel Vertoon objek in rich edit ✓ deur toString metode te gebruik ✓ Vertoon Wins/Verlies in paneel ✓ deur BerekenWinsVerlies metode te gebruik. ✓	**5**	
	Subtotaal: Hoofeenheid	**[13]**	
	TOTAAL VRAAG 3	**40**	

VRAAG 4		MAKS PUNTE	PUNTE BEHAAL
4.1	**Knoppie [4.1 – Lees inhoud]** Ken tekslêer toe ✓ Toets of lêer bestaan ✓ As nie, vertoon 'n boodskap ✓ 'Reset' die tekslêer ✓ Inisialiseer teller na 0 ✓ While-lus deur die tekslêer ✓ Vermeerder die teller ✓ Lees 'n waarde van die tekslêer en stoor in stringveranderlike ✓ Lus kolomme van 1 tot 3 ✓ Vind posisie van komma in stringveranderlike ✓ Ken stringveranderlike aan korrekte 2D-Skikking[Teller,Kolom]✓ Verwyder tot en met komma in stringveranderlike Ken oorblywende string aan 2D-Skikking[Teller,Kolom 4] ✓	**12**	
4.2	**Knoppie [4.2 – Vertoon]** Lus Ry van 1 tot Teller ✓ Lus Kolom van 1 tot 4 ✓ Stringveranderlike + 2D-Skikking[Ry,Kolom] ✓ + 'Tab' ✓ Vertoon in die richedit ✓	**5**	
4.3	**Knoppie [4.3 – Sorteer]** Buitelus van 1 tot Teller - 1 ✓ Binnelus van Buite + 1 tot Teller ✓ Toets of 2D-Skikking(Binne,4) ✓ minder is as 2D-Skikking(Buite,4) ✓ *moet kolom 4 na getal omgeskakel* ✓ Lus Kolom 1 tot 4 ✓ String Temp ← 2D-Skikking[Buite,Kolom] ✓ 2D-Skikking[Buite,Kolom] ← 2D-Skikking[Binne,Kolom] ✓ 2D-Skikking[Binne,Kolom] ← String Temp ✓ Vertoon sorteerde 2D-Skikking in rich edit ✓	**10**	
4.4	**Knoppie [4.4 – Totale markkapitalisasie]** Veranderlike Totaal moet of Real of Int64 wees Inisialiseer Totaal na 0 Lus Rye van 1 tot Teller ✓ Totaal ← Totaal + (2D-Skikking[Ry,Kolom 4] * 18) ✓ Vertoon totaal in rich edit in korrekte formaat ✓	**3**	
	TOTAAL VRAAG 4	**30**	

MOONTLIKE OPLOSSINGS

VRAAG 1

////////// 35 punte //////////

```
// ============================================================
//                          Vraag 1.1 – 6 punte
// ============================================================
procedure TfrmQuestion1.btn1_1Click(Sender: TObject);
begin
   /// Enter your code below ///

   with pnlOutput do
      begin
         Font.Name := 'Arial';
         Font.Size := 16;
         Font.Style := [fsBold, fsItalic];
         Alignment := taRightJustify;
         Caption := 'Crypto Exchange';
      end;
   end;


// ============================================================
//                          Vraag 1.2 – 10 Punte
// ============================================================
procedure TfrmQuestion1.btn1_2Click(Sender: TObject);
var
   iNumCoins : Integer;
   iTom, iJerry, iAndile : Integer;
   iLeftOver : Integer;
begin
   /// Enter your code below ///

   iNumCoins := StrToInt(edtInput.Text);
   iTom      := iNumCoins * 3 DIV 12;
   iJerry    := iNumCoins * 4 DIV 12;
   iAndile   := iNumCoins * 5 DIV 12;
   iLeftOver := iNumCoins – iTom – iJerry - iAndile;

   lbl1_2.Caption := 'Tom"s Share: ' + IntToStr(iTom) + #13 +
                     'Jerry"s Share: ' + IntToStr(iJerry) + #13 +
                     'Andile"s Share: ' + IntToStr(iAndile) + #13 +
                     'Remaining Coins: ' + IntToStr(iLeftOver);
end;
```


```
// ============================================================
//                          Vraag 1.3 – 12 punte
// ============================================================
procedure TfrmQuestion1.btn1_3Click(Sender: TObject);
// Provided code - DO NOT DELETE OR ALTER //
CONST
   PASSWORD = 'CRYPTO';
var
   sPassword : String;
   sChar : Char;
   iNum : Integer;
begin
   /// Enter your code below ///

   sPassword := '';
   for var I := 1 to Length(PASSWORD) do
      begin
         iNum := 0;
         repeat
               inc(iNum);
               sChar := Chr(Random(26) + 65);
         until sChar = PASSWORD[I];
         sPassword := sPassword + IntToStr(iNum) + Lowercase(sChar);
      end;
   lbl1_3.Caption := sPassword;
end;


// ============================================================
//                          Vraag 1.4 – 7 Punte
// ============================================================
procedure TfrmQuestion1.btn1_4Click(Sender: TObject);
var
   sLine : String;
   iLines : Integer;
begin
   /// Enter your code below ///

   redOutput.Clear;
   sLine := '';
   iLines := StrToInt(InputBox('Lines','Enter the number of lines.',''));
   for var I := 1 to iLines do
      begin
         sLine := sLine + '&';
         redOutput.Lines.Add(sLine);
      end;
   for var I := 1 to iLines - 1 do
      begin
         delete(sLine,1,1);
         redOutput.Lines.Add(sLine);
      end;
end;
```


VRAAG 2

////////// 45 punte //////////

```
// ============================================================
//                          Vraag 2.1.1 – 3 Punte
// ============================================================
procedure TfrmQuestion2.btn2_1_1Click(Sender: TObject);
   // Provided code - DO NOT DELETE OR ALTER //
var
   sSQL1: String;
begin
   /// Enter your code below ///

   sSQL1 :=  'SELECT * ' +
             'FROM tblMembers ' +
             'ORDER BY DateOfBirth ASC';

   // Provided code - DO NOT DELETE OR ALTER //
   dbCONN.runSQL(sSQL1);
   if length(sSQL1) <> 0 then
      SetGridColumnWidths(dbgSQL);
end;


// ============================================================
//                          Vraag 2.1.2 – 4 Punte
// ============================================================
procedure TfrmQuestion2.btn2_1_2Click(Sender: TObject);
   // Provided code - DO NOT DELETE OR ALTER //
var
   sSQL2: String;
begin
   /// Enter your code below ///

   sSQL2 :=  'SELECT CryptoType, Sum(Amount) AS [Amount] ' +
             'FROM tblCrypto ' +
             'GROUP BY CryptoType';

   // Provided code - DO NOT DELETE OR ALTER //
   dbCONN.runSQL(sSQL2);
   if length(sSQL2) <> 0 then
      SetGridColumnWidths(dbgSQL);
end;
```


```
// ============================================================
//                          Vraag 2.1.3 – 6 punte
// ============================================================
procedure TfrmQuestion2.btn2_1_3Click(Sender: TObject);
   // Provided code - DO NOT DELETE OR ALTER //
CONST
   ARRMONTHS : array[1..12] of String = ('January','February','March','April',
                                         'May','June','July','August','September',
                                         'October','November','December');
var
   sSQL3 : String;
   sLine : String;
begin
   sLine := inputbox('Month','Enter your month (1-12)','1');
   /// Enter your code below ///
            //Alternate solution
         //Case statement or If statement to determine month in string format

   sSQL3 :=  'SELECT count(*) AS [Birthdays in ' + ARRMONTHS[StrToInt(sLine)] +'] ' +
             'FROM tblMembers ' +
             'WHERE Month(DateOfBirth) = ' + sLine;

   // Provided code - DO NOT DELETE OR ALTER //
   dbCONN.runSQL(sSQL3);
   if length(sSQL3) <> 0 then
      SetGridColumnWidths(dbgSQL);
end;


// ============================================================
//                          Vraag 2.1.4 – 9 punte
// ============================================================
procedure TfrmQuestion2.btn2_1_4Click(Sender: TObject);
   // Provided code - DO NOT DELETE OR ALTER //
var
   sSQL4: String;
   rLiteCoin : Real;
begin
   rLitecoin := 1339.30;
   /// Enter your code below ///

   sSQL4 :=  'SELECT Surname, Firstname, CryptoType, Amount, ' +
                    'format(Amount * ' + FloatToStr(rLitecoin) + ',"Currency") AS [Value] ' +
             'FROM tblMembers, tblCrypto ' +
             'WHERE tblMembers.MemID = tblCrypto.MemID ' +
             'AND CryptoType = "Litecoin" ' +
             'AND (Amount * ' + FloatToStr(rLitecoin) +') > 5500';

   // Provided code - DO NOT DELETE OR ALTER //
   dbCONN.runSQL(sSQL4);
   if length(sSQL4) <> 0 then
      SetGridColumnWidths(dbgSQL);
end;
```

```
// ============================================================
//                          Vraag 2.1.5 – 3 punte
// ============================================================
procedure TfrmQuestion2.btn2_1_5Click(Sender: TObject);
   // Provided code - DO NOT DELETE OR ALTER //
var
   sSQL5: String;
begin
   /// Enter your code below ///

   sSQL5 :=  'DELETE FROM tblCrypto ' +
             'WHERE CryptoType = "Ripple" ';

   // Provided code - DO NOT DELETE OR ALTER //
   dbCONN.executeSQL(sSQL5,dbgMembers,dbgCrypto,dbgSQL);
   if length(sSQL5) <> 0 then
      SetGridColumnWidths(dbgSQL);
end;


// ============================================================
//                          Vraag 2.1.6 – 3 Punte
// ============================================================
procedure TfrmQuestion2.btn2_1_6Click(Sender: TObject);
   // Provided code - DO NOT DELETE OR ALTER //
var
   sSQL6: String;
begin
   /// Enter your code below ///

   sSQL6 :=  'UPDATE tblCrypto ' +
             'SET Amount = Amount / 2 ' +
             'WHERE CryptoType = "Bitcoin"';

   // Provided code - DO NOT DELETE OR ALTER //
   dbCONN.executeSQL(sSQL6,dbgMembers,dbgCrypto,dbgSQL);
   if length(sSQL6) <> 0 then
      SetGridColumnWidths(dbgSQL);
end;
```


```
// ============================================================
//                          Vraag 2.2.1 – 5 punte
// ============================================================
procedure TfrmQuestion2.btn2_2_1Click(Sender: TObject);
// Provided code - DO NOT DELETE OR ALTER //
var
   sSurname : String;
   sString : String;
begin
   with redOutput do
      begin
         Clear;
         SelAttributes.Style := [fsBold];
         Lines.Add('Member''s details');
      end;
   with tblMembers do
      begin
         Open;
         First;
         sSurname := edtSurname.Text;
         sString := sSurname + ' was not found in database';
         while not (eof) do
            begin
               /// Enter your code below ///

               if UpperCase(FieldByName('Surname').AsString) = UpperCase(sSurname) then
                  begin
                        sString := 'Name: ' + FieldByName('FirstName').AsString + #13 +
                                   'Surname: ' + FieldByName('Surname').AsString + #13 +
                                   'E-Mail: ' + FieldByName('E-mail').AsString + #13 +
                                   'Gender: ' + FieldByName('Gender').AsString;
                  end;
               Next;
            end;
         redOutput.Lines.Add(sString);
      end;
end;
```

```
// ============================================================
//                        Vraag 2.2.2 – 12 punte
// ============================================================
procedure TfrmQuestion2.btn2_2_2Click(Sender: TObject);
var
   sGender, sLine : String;
   arrGender : Array[1..4] of String;
   arrCryptoCount : Array[1..4] of Integer;
   iTotal, K : Integer;
begin
   // Provided code - DO NOT DELETE OR ALTER //
   with redOutput do
      begin
         Clear;
         SelAttributes.Style := [fsBold];
         Lines.Add('Total members = ' + IntToStr(tblMembers.RecordCount));
         Lines.Add('--------------------------');
      end;
   with tblMembers do
      begin
         Open;
         First;
         /// Enter your code below ///

         arrGender[1] := 'Male';
         arrGender[2] := 'Female';
         arrGender[3] := 'Genderfluid';
         arrGender[4] := 'Non-binary';
         iTotal := 0;
         for K := 1 to 4 do
               arrCryptoCount[K] := 0;

         while not (eof) do
            begin
               for K := 1 to 4 do
                  begin
                     if FieldByName('Gender').AsString = arrGender[K] then
                       begin
                            inc(arrCryptoCount[K]);
                            inc(iTotal);
                       end;
            end;
         Next;
      end;
      if iTotal = RecordCount then
         sLine := 'Correct'
      else
         sLine := 'Incorrect';
      for K := 1 to 4 do
         redOutput.Lines.Add(arrGender[K] + #9 + IntToStr(arrCryptoCount[K]));
      redOutput.Lines.Add(#13 + sLine);
   end;
end;
```

VRAAG 3

////////// 40 punte //////////

```
// ============================================================
//                          Vraag 3.1.1 – 5 Punte
// ============================================================
constructor TCrypto.create(sFirstName, sSurname: String; iCrypto: Integer);
begin
    fFirstName      := sFirstName;
    fSurname        := sSurname;
    fCrypto         := iCrypto;
    fAmount         := 0;
    fOriginalValue  := 0;
    fCurrentValue   := 0;
end;


// ============================================================
//                          Vraag 3.1.2 – 4 Punte
// ============================================================
function TCrypto.getCryptoName: String;
begin
    case fCrypto of
        0 : Result := 'Bitcoin';
        1 : Result := 'Ethereum';
        2 : Result := 'Litecoin';
    end;
end;


// ============================================================
//                          Vraag 3.1.3 – 7 Punte
// ============================================================
procedure TCrypto.setAmount(rMoney : Real);
var
    rConversion : Real;
begin
    rConversion := 0;
    case fCrypto of
        0 : rConversion := 1 / 1000000;
        1 : rConversion := 1 / 50000;
        2 : rConversion := 1 / 2500;
    end;
    fAmount := rMoney * rConversion;
    fOriginalValue := fOriginalValue + rMoney;
end;
```


```
// ============================================================
//                          Vraag 3.1.4 – 5 punte
// ============================================================
procedure TCrypto.setValue;
begin
    case fCrypto of
        0 : fCurrentValue := fAmount * randomRange(400000,1600001);
        1 : fCurrentValue := fAmount * randomRange(25000,75001);
        2 : fCurrentValue := fAmount * randomRange(500,3001);
    end;
end;


// ============================================================
//                          Vraag 3.1.5 – 6 Punte
// ============================================================
function TCrypto.calcProfitLoss: String;
begin
    if fCurrentValue > fOriginalValue then
       Result := 'Profit'
    else
       if fCurrentValue < fOriginalValue then
            Result := 'Loss'
       else
            Result := 'Even';
end;
```

```
// ============================================================
//                          Vraag 3.2.1 – 6 punte
// ============================================================
procedure TfrmQuestion3.btn3_2_1Click(Sender: TObject);
begin
    /// Enter your code below ///
    objCrypto := TCrypto.Create(edtName.Text, edtSurname.Text, rgpCrypto.ItemIndex);
    ShowMessage('Crypto account created successfully');

    // Provided code - DO NOT DELETE OR ALTER //
    btn3_2_2.Enabled := True;
end;


// ============================================================
//                          Vraag 3.2.2 – 2 Punte
// ============================================================
procedure TfrmQuestion3.btn3_2_2Click(Sender: TObject);
begin
    /// Enter your code below ///
    objCrypto.setAmount(StrToFloat(edtMoney.Text));

    // Provided code - DO NOT DELETE OR ALTER //
    btnLive.Enabled := True;
end;


// ============================================================
//                          Vraag 3.3.3 – 5 Punte
// ============================================================
procedure TfrmQuestion3.tmrLiveTimer(Sender: TObject);
begin
    /// Enter your code below ///
    objCrypto.setValue;
    redOutput.Lines.Add(objCrypto.toString);
    pnlOutput.Caption := objCrypto.calcProfitLoss;
end;
```

VRAAG 4

////////// 30 punte //////////

```
// ============================================================
//                          Vraag 4.1 – 12 Punte
// ============================================================
procedure TfrmQuestion4.btn4_1Click(Sender: TObject);
var
   MyFile : TextFile;
   sLine  : String;
   iPos   : Integer;
   iCol   : Integer;
begin
   /// Enter your code below ///
   AssignFile(MyFile, 'Crypto.txt');
   try
      Reset(MyFile);
   except
      ShowMessage('File not found');
      Exit;
   end;

   iCount := 0;
   while not eof(MyFile) do
      begin
         inc(iCount);
         ReadLn(MyFile, sLine);
         for iCol := 1 to 3 do
            begin
               iPos := pos(',',sLine);
               ar2Crypto[iCount,iCol] := copy(sLine,1,iPos - 1);
               delete(sLine,1,iPos);
            end;
         ar2Crypto[iCount,4] := sLine;
      end;

   CloseFile(MyFile);
end;
```


```
// ============================================================
//                          Vraag 4.2 – 5 punte
// ============================================================
procedure TfrmQuestion4.btn4_2Click(Sender: TObject);
var
   iRow, iCol : Integer;
   sLine : String;
begin
   // Provided code - DO NOT DELETE OR ALTER //
   with redOutput do
      begin
         Clear;
         Paragraph.TabCount := 3;
         Paragraph.Tab[0] := 60;
         Paragraph.Tab[1] := 120;
         Paragraph.Tab[2] := 200;
         SelAttributes.Style := [fsBold];
         Lines.Add('Name' + #9 + 'Symbol' + #9 + 'Price (ZAR)' + #9 + 'Market Cap (USD)');
      end;
      /// Enter your code below ///
      for iRow := 1 to iCount do
         begin
            sLine := '';
            for iCol := 1 to 4 do
               sLine := sLine + (ar2Crypto[iRow,iCol] + #9);
            redOutput.Lines.Add(sLine);
         end;
end;

// ============================================================
//                          Vraag 4.3 – 10 Punte
// ============================================================
procedure TfrmQuestion4.btn4_3Click(Sender: TObject);
var
   K, L, J  : Integer;
   sTemp : String;
begin
   /// Enter your code below ///
   for K := 1 to iCount - 1 do
      for L := K + 1 to iCount do
         begin
            if StrToFloat(ar2Crypto[K,4]) < StrToFloat(ar2Crypto[L,4]) then
               begin
                  for Col := 1 to 4 do
                     begin
                       sTemp := ar2Crypto[K,Col];
                       ar2Crypto[K,Col] := ar2Crypto[L,Col];
                       ar2Crypto[L,Col] := sTemp;
                     end;
               end;
         end;
   btn4_2.Click;
end;
```

```
// ============================================================
//                          Vraag 4.4 – 3 punte
// ============================================================
procedure TfrmQuestion4.btn4_4Click(Sender: TObject);
var
   rTotalCap : Real;
   iRow : Integer;
begin
   /// Enter your code below ///
   rTotalCap := 0;
   for iRow := 1 to iCount do
      rTotalCap := rTotalCap + StrToFloat(ar2Crypto[iRow,4]);
   redOutput.Lines.Add(#13 + 'Total Market Cap: ' +
                              (FloatToStrF(rTotalCap,ffCurrency,25,2) * 18));
end;
```

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