higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NASIENRIGLYN

NASIONALE SERTIFIKAAT (BEROEPSGERIG)

BEGINSELS VAN REKENAARPROGRAMMERING
NKR VLAK 3
(Tweede vraestel)

28 November 2023

Hierdie nasienriglyn bestaan uit 9 bladsye.

Kopiereg voorbehou

INSTRUKSIES AAN DIE NASIENERS

1. Sien al die vrae slegs in ROOI ink na.

2. Lees al die antwoorde wat in die bronkode verskaf is versigtig deur.

3. Nasieners moet die vraestel uitwerk voordat die nasienriglyn bespreek word.

4. Die nasienriglyn moet as grondslag vir die nasiensessie gebruik word. Alle nasieners moet 'n streng standaardiseringsvergaderings bywoon om te verseker dat hierdie riglyne konsekwent geïnterpreteer en by die nasien van die kandidate se werk toegepas word.

5. Let daarop dat kandidate wat 'n alternatiewe korrekte oplossing anders as die voorbeeld wat in die nasienriglyn verskaf is, gee, moet volle krediet vir die relevante oplossing ontvang, tensy die spesifieke instruksies in die vraestel nie gevolg is nie, of daar nie aan die vereistes van die vraag voldoen is nie.

6. Die kandidaat se totale punt word op die EKSAMENOMSLAG langs die ooreenstemmende vraagnommer geskryf.

7. Indien 'n kandidaat 'n DRUKSTUK ingedien het maar 0 vir die vraag behaal het, word 0 (nul) op die omslag langs die ooreenstemmende vraagnommer geskryf.

8. Indien 'n kandidaat nie 'n DRUKSTUK ingelewer het nie, word 'n streep deur die blok langs die ooreenstemmende vraagnommer getrek.

9. Indien 'n kandidaat 'n DRUKSTUK sonder 'n gedrukte EKSAMENNOMMER ingedien het, moet die antwoord nagesien en as 'n onreëlmatigheid verklaar word.

10. Alle onreëlmatighede moet nagesien en die punte na die voorblad van die omslag oorgedra word. Die woord 'onreëlmatigheid' word langs die persentasie geskryf en 'n onreëlmatigheidsverslag word voltooi.

11. Indien 'n kandidaat duplikaat DRUKSTUKKE ingedien het, moet 'n streep oor die duplikaat getrek en 'Duplikaat' daaroor geskryf word.

Kopiereg voorbehou

NASIENROOSTER

VRAAG 1:

VRAAG-NOMMER	BESKRYWING	MAKS. PUNTE
1.1.1	`Dim age As Integer`✓ `Dim dependents As Integer` `Dim medpayment As Double`✓ **[Enige 2 × 1]**	(2)

1.1.2	`If txtAge.Text = "" Then`✓
	`  MessageBox.Show("Please enter your Age")`✓
	`  Return`
	`ElseIf txtNoDependants.Text = "" Then`✓
	`  MessageBox.Show("Please enter your dependants (0 if none)")` ✓
	`  Return`
	`End If`
	
	ENIGE PROGRAMMATIES KORREKTE EN WERKENDE VALIDASIETOETS IS AANVAARBAAR
		(4)

1.1.3	`age = Convert.ToInt32(txtAge.Text)` ✓ `dependents = Convert.ToInt32(txtNoDependants.Text)` ✓	(2)

1.1.4	`If (radGold.Checked) Then`✓
	`  If (age >= 35) Then`✓
	`  medpayment = 1800 + (1800 * 0.45) * dependents`✓
	`  MessageBox.Show("Your monthly payment for the Gold pacakge is: " & medpayment.ToString("C2"))`
	`  Else`
	`  medpayment = 1500 + (1500 * 0.45) * dependents`✓
	`  MessageBox.Show("Your monthly payment for the Gold pacakge is: " & medpayment.ToString("C2"))`
	`  End If`
	`ElseIf (radSilver.Checked) Then`✓
	`  If (age >= 35) Then`✓
	`  medpayment = 1400 + (1400 * 0.35) * dependents`✓
	`  MessageBox.Show("Your monthly payment for the Silver Package is: " & medpayment.ToString("C2"))`
	`  Else`
	`  medpayment = 1100 + (1100 * 0.35) * dependents`✓
	`  MessageBox.Show("Your monthly payment for the Silver Package is: " & medpayment.ToString("C2"))`
	`  End If`
	`ElseIf (radCopper.Checked) Then`✓
	`  If (age >= 35) Then`✓
	`  medpayment = 900 + (900 * 0.25) * dependents`✓
	`  MessageBox.Show("Your monthly payment for the Copper`
		(12)

Kopiereg voorbehou

	Package is: " & medpayment.ToString("C2"))
	Else
	medpayment = 750 + (750 * 0.25) * dependents✓
	MessageBox.Show("Your monthly payment for the
	Copper Package is: " & medpayment.ToString("C2"))
	End If
	End If
	
	ENIGE ANDER WERKENDE VARIASIE VAN 'N *NESTED IF*-OPLOSSING IS AANVAARBAAR	

1.1.5	1 Punt vir elke skermgreep met die korrekte afvoer: SILVER: R2640,00 pm✓ GOLD: R1800,00 pm ✓	(2)
1.1.6	Bronkodedrukstuk (geen punt nie)	(0)
		[22]

VRAAG 2:

VRAAG-NOMMER	BESKRYWING	MAX PUNTE
2.1	txtAccBalance.Text = ""✓ lstInstallments.Items.Clear()✓	(2)
2.2.1	Dim period As Integer✓ Dim balance As Double Dim installment As Double✓ **[Enige 2 × 1]**	(2)
2.2.2	period = Convert.ToInt32(cmbPaymentPeriod.Text) ✓ balance = Convert.ToDouble(txtAccBalance.Text) ✓	(2)
2.2.3	Select Case period ✓ Case 3✓ balance = balance + (0.12 * balance) ✓ installment = balance / period For r = 1 To period✓ lstInstallments.Items.Add("Installment #" & r.ToString() & ": " & installment.ToString("C2"))✓ Next	

	lstInstallments.Items.Add("TOTAL PAID : " & balance.ToString("C2"))✓ Case 6 balance = balance + (0.18 * balance) ✓ installment = balance / period For r = 1 To period✓ lstInstallments.Items.Add("Installment #" & r.ToString() & ": " & installment.ToString("C2"))✓ Next lstInstallments.Items.Add("TOTAL PAID : " & balance.ToString("C2"))✓ Case 9 balance = balance + (0.26 * balance) ✓ installment = balance / period For r = 1 To period✓ lstInstallments.Items.Add("Installment #" & r.ToString() & ": " & installment.ToString("C2"))✓ Next lstInstallments.Items.Add("TOTAL PAID : " & balance.ToString("C2"))✓ End Select **ENIGE ANDER WERKENDE VARIASIE TEN OPSIGTE VAN DIE BEREKENING VAN DIE PAAIEMENT EN DIE VERTOON VAN DIE VEREISTE RESULTAAT IS AANVAARBAAR, MAAR DIT MOET 'N *SELECT CASE*-SELEKSIESTRUKTUUR GEBRUIK.**	(14)
2.2.4	1 Punt vir elke skermgreep met die korrekte afvoer: **R2200.00 over 6 months:** instalment R432.67 total paid: R2596.00✓ **R1380.00 over 9 months:** instalment R193.20 total paid: R1738.00✓	(2)
2.2.5	Bronkodedrukstuk (geen punt nie)	(0)
		[22]

VRAAG 3:

VRAAG-NOMMER	BESKRYWING	MAKS. PUNTE
3.1	Dim arrKLValues(4) As Integer✓	(1)
3.2	Dim daycnter As Integer✓ Dim totKiloLitres As Integer Dim aveKL As Double Dim totCost As Double✓ Dim aveCost As Double	

	`Dim highestKL As Integer`
	`Dim highestDay As Double`
	`Dim dayname As String`
	
	[Enige 2 × 1]
		(2)

3.3.1	`If txtDayKL.Text = "" Then`✓
	`  MessageBox.Show("Please provide a value in Kilo Litres")`✓
	`  Return`
	`End If`
		(2)

3.3.2	`If daycnter > 5 Then`✓
	`  MessageBox.Show("List is full - only 5 values are allowed")`✓
	`  Return`
	`End If`
	
	ENIGE ANDER PROGRAMMATIES KORREKTE VALIDASIETOETS VIR DIE BOGRENS VAN DIE LYS IS AANVAARBAAR
		(2)

3.3.3	`lstAnalysis.Items.Add("#" & daycnter.ToString() & " : water usage = " & arrKLValues(daycnter - 1).ToString() & " KL")`✓ `txtDayKL.Text = ""`✓ `txtDayKL.Focus()`✓	(3)

3.4.1	`If (daycnter <> 5) Then`✓
	`  MessageBox.Show("Valid values are required to compute analysis")`✓
	`  Return`
	`End If`
	
	ENIGE ANDER PROGRAMMATIES KORREKTE VALIDASIETOETS VIR DIE BOGRENS VAN DIE LYS IS AANVAARBAAR
		(2)

3.4.2	`For i = 0 To 4`✓
	`  If highestKL < arrKLValues(i) Then`✓
	`  highestKL = arrKLValues(i)`✓
	`  Select Case i`✓
	`  Case 0`
	`  dayname = "Monday"`
	`  Case 1`
	`  dayname = "Tuesday"`
	`  Case 2`
	`  dayname = "Wednesday"`
	`  Case 3`
	`  dayname = "Thursday"`
	`  Case 4`
	`  dayname = "Friday"`✓
	`  End Select`
	`  End If`
	`  totKiloLitres = totKiloLitres + arrKLValues(i)`✓
	`Next`
	
	ENIGE ANDER WERKENDE VARIASIE TEN OPSIGTE VAN DIE BEREKENING VAN DIE VEREISTE WAARDES IS AANVAARBAAR
		(6)

3.4.3	`totCost = 23.75 * totKiloLitres` ✓ `aveCost = totCost / 5` ✓ `aveKL = totKiloLitres / 5` ✓ `highestDay = highestKL * 23.75` ✓	(4)

3.4.4	`lstAnalysis.Items.Add("Total Kilo Litres used: " & totKiloLitres.ToString())`✓
	`lstAnalysis.Items.Add("Total Cost Incurred: " & totCost.ToString("C2"))`✓
	`lstAnalysis.Items.Add("Average Kilo Litre Usage: " & aveKL.ToString())`
	`lstAnalysis.Items.Add("Average Cost Incurred: " & aveCost.ToString("C2"))`✓
	`lstAnalysis.Items.Add("Highest Daily KL Consumption: " & highestKL.ToString())`✓
	`lstAnalysis.Items.Add("Highest Daily KL Cost : " & highestDay.ToString("C2"))`
	`lstAnalysis.Items.Add("Most Expensive Day (Usage): " & dayname)`
	
	Enige 4 × 1
		(4)

3.4.5	Bronkodedrukstuk (geen punt nie)	(0)
		[26]

VRAAG 4:

VRAAG-NOMMER	BESKRYWING	MAKS. PUNTE

4.1	`If System.IO.File.Exists("students.csv") Then` ✓
	`  lblFileStatus.Text = "File Exists: READY to save to file"`✓
	`Else`
	`  lblFileStatus.Text = "File will be created when SUBMIT button is clicked"`✓
	`End If`
		(3)

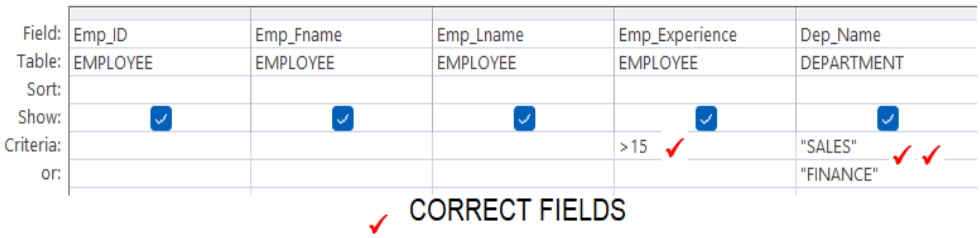
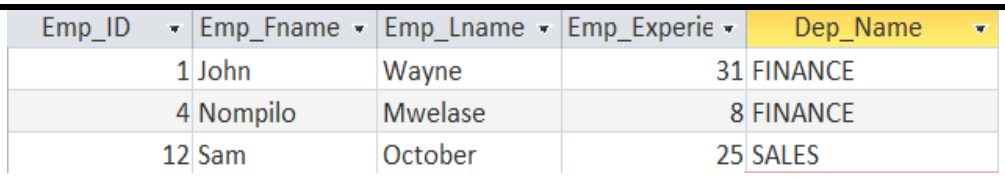
4.2	`Dim filename As String = "students.csv"`✓ `Dim recWriter As New System.IO.StreamWriter(filename, True)` ✓ `Dim studRecord As String` `Try`✓ `studRecord = txtRecID.Text & "," & txtFirstName.Text & "," & txtSurname.Text & "," & txtTelephone.Text & "," & txtMobileNo.Text & "," & txtEmail.Text & "," & vbCrLf`✓ `recWriter.WriteLine(studRecord)` ✓	(9)

```
recWriter.Close()✓

txtFirstName.Text = ""
txtSurname.Text = ""
txtRecID.Text = ""
txtMobileNo.Text = ""✓
txtTelephone.Text = ""
txtEmail.Text = ""
txtRecID.Focus()

'—INFORM USER THAT RECORD WAS ADDED
MessageBox.Show("SUCCESS: Student Record Saved to File")✓

Catch ex As Exception
'-- INFORM USER RECORD COULD NOT BE SAVED
MessageBox.Show("ERROR: Student Record was NOT Saved")✓
End Try
```

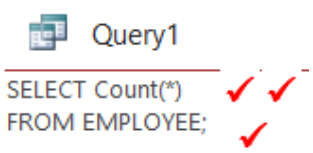
ENIGE ANDER WERKENDE VARIASIE VAN DIE BOSTAANDE OPLOSSING IS AANVAARBAAR

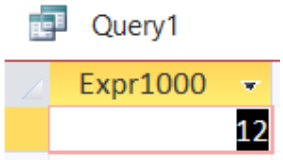
4.3	Bronkodedrukstuk (geen punt nie)	**(0)**
		[12]

VRAAG 5:

VRAAG-NOMMER	BESKRYWING	MAKS. PUNTE
5.1	Drukstuk van die tabelstruktuur wat 'n *enforced*-verwantskap toon.	(2)
5.2		(4)
5.3		(2)

Emp_ID	Emp_Fname	Emp_Lname	Emp_Experie	Dep_Name
1	John	Wayne	31	FINANCE
4	Nompilo	Mwelase	8	FINANCE
12	Sam	October	25	SALES

5.4		(3)

5.5		(2)
5.6	DEPARTMENT - EXAM NUMBER Dep_Name ✓ ✓ Emp_ID Emp_Fname Emp_Lname _Experience FINANCE 4 Nompilo Mwelase 8 1 John Wayne 31 Avg ✓ 19,5 SALES 12 Sam October 25 Avg ✓ 25 CORRECT RECORDS ✓	(5)
		[18]

TOTAAL: 100

Kopiereg voorbehou