higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

NASIENRIGLYN

NASIONALE SERTIFIKAAT (BEROEPSGERIG)

BEGINSELS VAN REKENAARPROGRAMMERING

(Tweede vraestel)

NKR VLAK 3

12 Maart 2020

Hierdie nasienriglyn bestaan uit 11 bladsye.

Kopiereg voorbehou

VRAAG 1: FUNKSIES EN SUBPROSEDURES

1.1
```
Option Explicit On
Option Strict On ✓

Public Class frmRental

 Dim intClientCount As Integer = 0      ✓
 Dim intStatus As Integer = 0           ✓
 Dim decDailyRentalFee As Decimal = 0   ✓
```
(4)

1.2
```
Private✓ Sub PopVehicleNames()✓
```

Korrekte toegangwysiger {Private}
Korrekte subproseduredefinisie (2)

1.2.1
```
lstVehicleNames.Items.Clear()✓
```
(1)

1.2.2
```
If ✓ radCompact.Checked = True ✓ Then
     lstVehicleNames.Items.Add(strCompactOption1)
     lstVehicleNames.Items.Add(strCompactOption2)

ElseIf ✓ radHatch.Checked = True Then
     lstVehicleNames.Items.Add(strHatchOption1)
     lstVehicleNames.Items.Add(strHatchOption2)

ElseIf ✓ radSedan.Checked = True Then
     lstVehicleNames.Items.Add(strSedanOption1)
     lstVehicleNames.Items.Add(strSedanOption2)
End If
```
✓

Voeg items in die lyshokkie in (al drie)
Voorwaardelike toets op radioknoppies (al drie)
Voorwaardelike toets (korrekte stelling)
Voorwaardelike toets (korrekte gebruik van geneste elseif)

LET WEL: Penaliseer met 'n maksimum van TWEE punte indien die kandidaat nie 'n geneste as-stelling gebruik het nie. (5)

1.2.3
```
lstVehicleNames.SelectedIndex = 0✓
```
(1)

1.3 1.3.1

```
Private✓ Sub DisplayVehicleInfo(ByVal Description As
String, ByVal Rentalfee As Decimal, ByVal Availability
As Integer)✓
```

Korrekte toegangswysiger {Private}
Korrekte subproseduredefinisie (al drie parameters) (2)

1.3.2

```
lblVehicleDescription.Text = lstVehicleNames.Text✓ &
" " & description✓
```

Korrekte aaneenskakeling van parameter
Lyshokkie-teks geselekteer (2)

1.3.3

```
intStatus = Availability✓
```

(1)

1.3.4

```
btnCreateBooking.Enabled = False✓
```

(1)

1.3.5

```
If intStatus = 0✓ Then
   lblRentalFee.Text = "Not Available."
ElseIf intStatus = 2  Then                    ✓
   lblRentalFee.Text = "Sold out."
Else
   btnCreateBooking.Enabled = True
   decDailyRentalFee = Rentalfee              ✓

   lblRentalFee.Text = Rentalfee.ToString("C2") & " a
                                                day."✓
End If

End Sub
```

Korrekte voorwaardelike toets vir beskikbaarheid van voertuig
Toepaslike boodskap in verhuringsfooivertoonetiket (albei) toegeken
Knoppiekontrole geaktiveer en parameterwaarde in veranderlike toegeken
Geformatteerde verhuringsfooiboodskap in die verhuringsfooi-vertoontabel toegewys (4)

1.4
```
Private Sub radCompact_CheckedChanged(…) Handles
                                    radCompact.CheckedChanged
        If radCompact.Checked = True Then✓
            PopVehicleNames()
        End If
End Sub

Private Sub radSedan_CheckedChanged(…) Handles
                                    radSedan.CheckedChanged
        If radSedan.Checked = True Then
            PopVehicleNames()
        End If
End Sub

Private Sub radHatch_CheckedChanged(…) Handles
                                    radHatch.CheckedChanged
        If radHatch.Checked Then
            PopVehicleNames()✓
        End If
End Sub
```

Korrekte voorwaardelike toets van alle gemerkte radioknoppiekontroles (al drie)
Korrekte subprosedure, PopVehicleNames, geaktiveer (al drie) (2)

1.5 1.5.1
```
Private✓ Function IsBalanceOk(ByVal Amount As
Decimal✓) As Boolean✓
```

Korrekte toegangwysiger (Private)
Korrekte funksiedefinisie (Een parameter)
Korrekte funksieterugstuurtipe (Boole) (3)

1.5.2
```
If✓ CDec(txtCreditCardBal.Text) > (Amount * 2)✓ Then
        Return True
    Else                                          ✓
        Return False
End If

End Function
```

Korrekte voorwaardelike toets vir dubbele verhuring
Terugstuurstelling (albei) (3)

1.6 1.6.1
```
~~Protected~~ Private✓ Sub SaveRentalData(…)
```

Korrekte toegangwysiger (Privaat)

```
ReDim decRentalDue(intClientCount)
 ReDim strHiredVehicles(intClientCount)
 decRentalDue(intClientCount) = amount
 strHiredVehicles(intClientCount) =
                                    lstVehicleNames.Text
```
(1)

1.6.2
```
intClientCount = intClientCount + 1✓
```
Inkrementteller (1)

1.6.3
```
'rental confirmation note
MessageBox.Show✓ (lstVehicleNames.Text  & " hired for
" & days.ToString & " days at total cost of " &
amount.ToString("C2")✓ & ".", "Rental Confirmation",
MessageBoxButtons.OK, MessageBoxIcon.Information)

End Sub
```
Opspringdialoogkassie (Message Box.Show)
Korrekte formaat van die boodskaphokkie (2)

1.7 1.7.1
```
Private Sub btnCreateBooking_Click(…) Handles
                                  btnCreateBooking.Click

Dim intNumberOfdays As Integer
Dim decAmountDue As Decimal
Dim blnBalancestatus As Boolean


If intStatus = 1 Then
   If ValNumField(txtCreditCardBal.Text) = False
                                                  Then
       MessageBox.Show("Re-enter availabe balance on
           your credit card.", "Credit Card Balance",
                                MessageBoxButtons.OK,

     MessageBoxIcon.Information)
       txtCreditCardBal.Focus()
   Else

intNumberOfdays = ✓ CInt(InputBox ✓ ("Enter the
                      number of days", "Rental Days"))
```
Korrekte toevoerhokkie
Waarde in 'n plaaslike veranderlike toegewys (2)

1.7.2
```
decAmountDue = decDailyRentalFee * intNumberOfdays✓
```
(1)

1.7.3 (a)
```
blnBalancestatus = IsBalanceOk(decAmountDue)✓
```
Aktiveer funksie met 'n argument en wys die waarde aan 'n plaaslike veranderlike toe (1)

(b)
```
If blnBalancestatus = False✓ Then
    MessageBox.Show("Insufficient funds.
                  The client's credit card balance
should be more than twice the rental fee.", _
                                      "Creating
Booking",
                              MessageBoxButtons.OK,
                          MessageBoxIcon.Information)✓
    txtCreditCardBal.Focus()✓
    Exit Sub
```

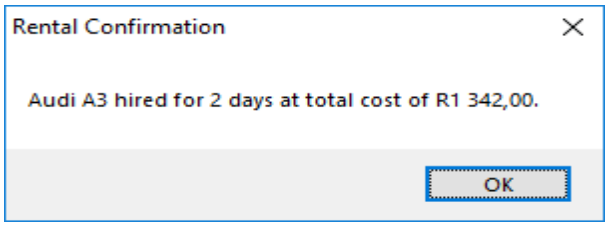
Validasie (Voorwaardelike stelling If)
Kommunikasie (Boodskaphokkie)
Navigasie (Fokus/Staak sub) (3)

(c)
```
Else
   ' record the rental details
    SaveRentalData(decAmountDue, intNumberOfdays)
   ' reset the availability status.
    ChangeVehicleStatus(Status.NotAvailable)✓✓
   'clear rental form
   ClearRentalForm()
  End If
 End If
End If
```

Aktiveer metodes (Al DRIE) (2)

1.8 DRUKSTUK van bronkode

1.9



✓

Korrekte dialoogkassie en afvoer (1)
[45]

VRAAG 2: SKIKKINGS (ARRAYS)

2.1 2.1.1
```
Dim decCarWashPrices(,)✓ As Decimal = {{0, 0, 0, 0},
{60, 70, 300, 500}, {70, 80, 325, 550}}✓
```

Tweedimensionele skikkingsverklaring
Inisiëring van skikking (2)

2.1.2
```
Dim decExtraPrices(,) As Decimal = {{0, 0}, {10, 15},
{15, 20}}✓
```

Korrekte tweedimensionele skikking en inisialisering (1)

2.1.3
```
Dim decExtrasCost As Decimal = 0
Dim decCarWashCost As Decimal = 0
Dim decTotalCost As Decimal = 0
```
✓

Globale veranderlikeverklaring en insialisering (al drie) (1)

2.2
```
Public✓ Sub DisplayCustInformation()✓
```

Korrekte toegangwysiger (Public)
Korrekte subproseduredefinisie (2)

2.2.1
```
lblCustomerDetails.Text =✓ txtCustomerName.Text &
vbLf & vbLf & "Contact No: " & txtContactNumber.Text✓
```

Aan etiketkontrole toegewys
Kliëntnaam en kontaknommer aaneengeskakel
LET WEL: Moenie kandidate penaliseer wat "" in plaas van vbLF gebruik nie (2)

2.2.2
```
lblRegNumber.Text = txtRegNumber.Text
lblMakeModel.Text = txtMakeModel.Text✓
lblColour.Text = txtColour.Text

End Sub
```

Wys motordata-items aan vertoonetikette toe (1)

2.3 2.3.1
```
Private Sub btnCarWashOption_Click(…) Handles
btnCarWashOption.Click

If ValContactNumber(txtContactNumber.Text) = False✓
                                                  Then
     MessageBox.Show("Re enter the contact number",
                     "Input Error")✓
     txtContactNumber.Focus()   ✓
     Exit Sub ✓
End If
```
Validasie (Voorwaardelike stelling If)
Kommunikasie (Boodskaphokkie)
Navigasie (Fokus/Staak sub) (4)

2.3.2
```
If ValTextField(txtRegNumber.Text) = False Then
      MessageBox.Show("Re enter the contact
                           number", "Input Error")
      txtRegNumber.Focus()
      Exit Sub
End If
```
Validasie (Voorwaardelike stelling If) (1)

2.3.3
```
If cboVehicleType.SelectedIndex = 0✓ Then
     MessageBox.Show("Please select the vehicle
               category for pricing purposes.")
     cboVehicleType.Focus()
     Exit Sub
Else ✓
     DisplayCustInformation()✓
     TabControl1.SelectedIndex = 1✓
End If
```
Validasie (Voorwaardelike stelling If/Else)
Aktiveer subprosedure
Verander gewelbladsy (geselekteerde indeks) (4)

2.4 2.4.1
```
Private Sub CalcTotalCost(…)

'reset totals
decTotalCost = 0
decCarWashCost = 0
decExtrasCost = 0

decCarWashCost = ✓ decArrCarWashPrices
        (cboVehicleType.SelectedIndex,✓
colIndex)✓
```
Wys aan toepaslike waarde toe
Korrekte skikkingselement-ry
Korrekte skikkingselementkolom (3)

2.4.2
```
If chkDrying.Checked = True ✓ Then
     decExtrasCost = decArrExtraPrices
          (cboVehicleType.SelectedIndex, 0)✓✓
End If
```
Korrekte voorwaardelike toets vir merkblokkie
Waarde van tweedimensionele skikking toegewys (3)

2.4.3
```
If chkVacuum.Checked = True Then
   decExtrasCost = decExtrasCost +✓
decArrExtraPrices
               (cboVehicleType.SelectedIndex, 1✓)
End If
```
Inkrementeer ekstraskoste met die waarde van die tweedimensionele skikking (2)

2.4.4
```
decTotalCost = (decCarWashCost + decExtrasCost)✓
```
Korrekte formule om die bedrag betaalbaar te bereken (1)

2.5
```
Private Function CalcCostExcludingVAT(ByVal amount As
Decimal✓) As Decimal✓
  Return (amount / 1.15D)✓
End Function
```

Parameter
Funksieterugstuurtipe (desimaal)
Stuur berekende bedrag terug (3)

2.6 Ontfouting en kodefoute reggestel

2.7 DRUKSTUK van bronkode

[30]

VRAAG 3

3.1 Databasistabelstrukture in Microsoft Access.

3.1.1

Table: Client

Columns

Name	Type	Size
ClientID	Text	4
ClientName ✓	Text ✓	20 ✓
ClientContactNo	Text	12

Korrekte veldname
Korrekte datatipes
Korrekte groottes (3)

3.1.2

Table: Job

Columns

Name	Type	Size
JobID	Text	6
JobTitle	Text	40
Area ✓	Text ✓	20 ✓
AnnualSalary	Decimal	16
ClientID	Text	4

Korrekte veldname
Korrekte datatipes
Korrekte groottes (3)

3.1.3

Relationships

ClientsJobs

Clients	1	∞	Jobs
ClientID			ClientID

Attributes: Enforced ✓
RelationshipType: One-To-Many ✓

Relasietipe (1:B)
Verwysingsintegriteit afgedwing (2)

3.1.4

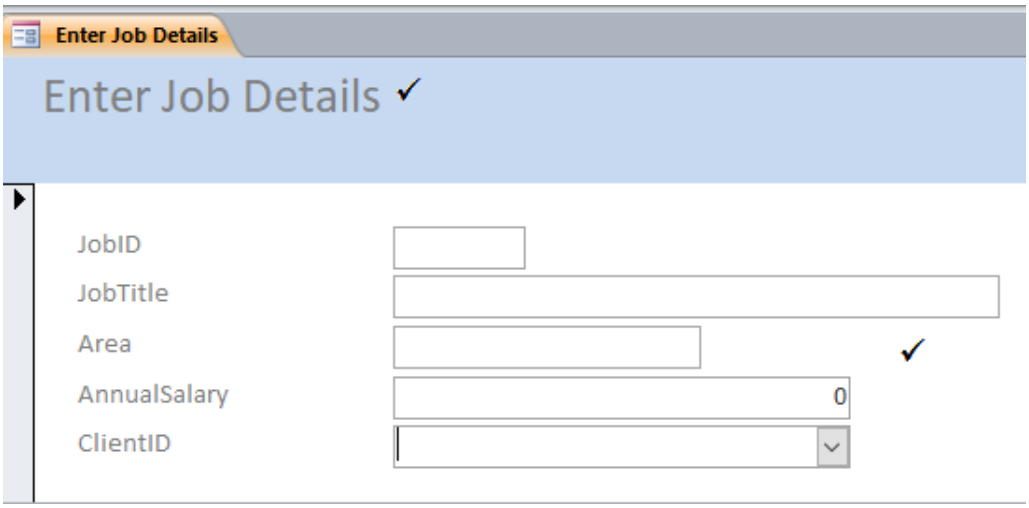
Field Name	Data Type
JobID	Text
JobTitle	Text
Area	Text
AnnualSalary	Number
ClientID	Text

General | Lookup

Field Size	Decimal
Default Value	0
Validation Rule	>=150000 ✓
Validation Text	
Required	No

Korrekte validasiereël (1)

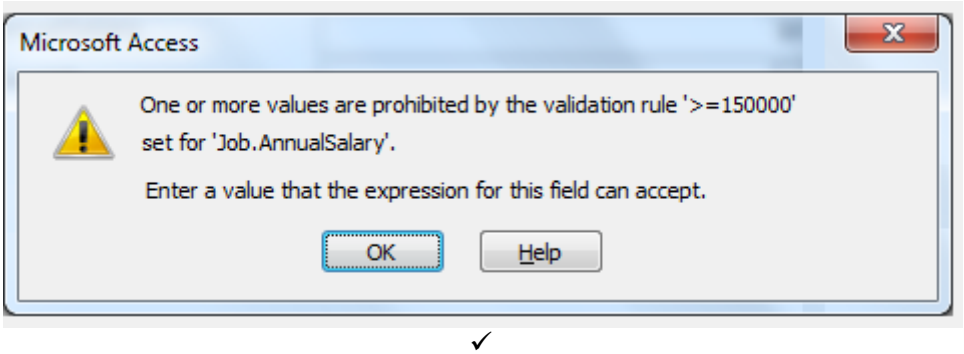
3.2 Databasisvorm



Korrekte vormtitel
Korrekte vormuitleg (2)

3.3 Vaslegging van data in databasistabelle:

3.3.3

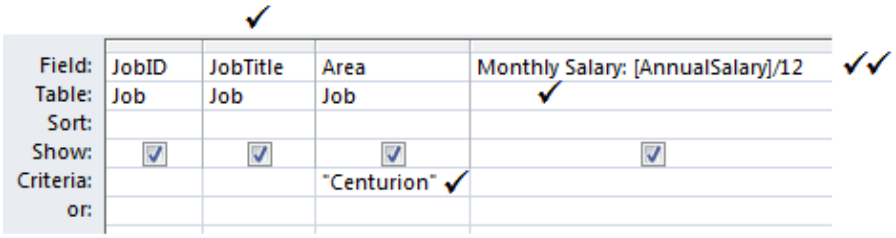


✓

Skermdruk van foutboodskap (1)

3.4 Databasisnavraag

3.4.1–
3.4.4



Field:	JobID	JobTitle	Area	Monthly Salary: [AnnualSalary]/12
Table:	Job	Job	Job	
Sort:				
Show:	☑	☑	☑	☑
Criteria:			"Centurion"	
or:				

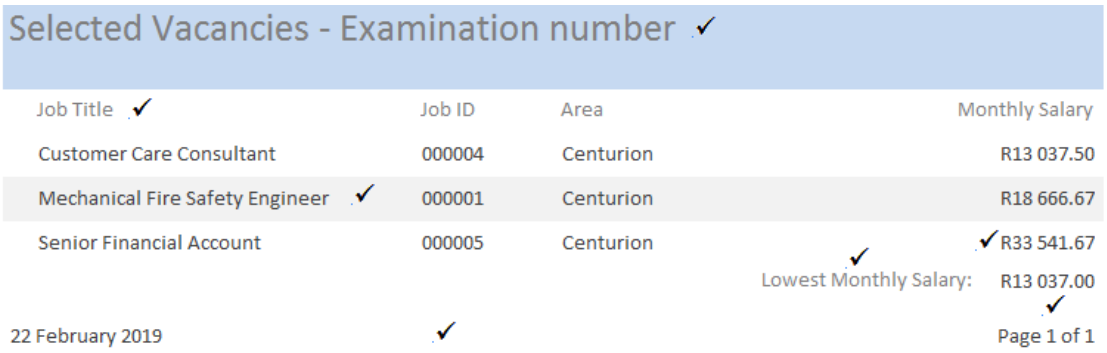
Korrekte veldname
Berekende veld: nuwe naam
Berekende veldformule
Korrekte kriteria van area (5)

3.4.5

JobID	JobTitle	Area	Monthly Salary
000001	Mechanical Fire Safety Engineer	Centurion	R18 666,67
000004	Customer Care Consultant	Centurion	R13 037,50
000005	Senior Financial Account	Centurion	R33 541,67

Korrekte navraagresultate (1)

3.5 Databasisverslag



Selected Vacancies - Examination number

Job Title	Job ID	Area	Monthly Salary
Customer Care Consultant	000004	Centurion	R13 037.50
Mechanical Fire Safety Engineer	000001	Centurion	R18 666.67
Senior Financial Account	000005	Centurion	R33 541.67
		Lowest Monthly Salary:	R13 037.00

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Korrekte velde
Sortering volgens titel van werk
Uitleg: regopvorm
Verslagtitel
Geldeenheidsimbool (“R”)
Etiket (Lowest)
Laagste maandelikse salaris (7)
[25]

TOTAAL: 100

Kopiereg voorbehou