Course Assignment

1a) Inputs for Employee and Amplifier

Employee Details:	
Forename	Text
Surname	Text
Address	Text
Contact Num	Number
Driving license	Yes/No
Employee Number	Number

Amplifier Details:	
Serial Number	Text
Date Built	Date/Time
Time Completed	Date/Time
Model	Text
Passed Test	True/False
Employee Number	Number

1b) Completed Table for Amplifier

Attribute Name	Key	Type	Size	Required	Validation
Serial Number	Prim	Text	20	Y	Length= 10
Date Built	-	Date/Time	-	Y	-
Time Completed	-	Date/Time	-	Y	-
Model	-	Text	7	Y	= Jazz8 or Rock100 or Blue55
Test Passed	-	True/False	-	Y	-
Employee Number	Foreign	Number	-	Y	Lookup the employee table

Table: tblAmplifier Page: 1

Properties

AlternateBackShade:	95	AlternateBackThemeColorIn	1
AlternateBackTint:	100	BackShade:	100
BackTint:	100	DatasheetForeThemeColorIn	0
DatasheetGridlinesThemeCol	3	DateCreated:	27/06/2017 14:13:34
DefaultView:	2	DisplayViewsOnSharePointSi	1
FilterOnLoad:	False	GUID:	{guid {D873FA0A-7CBE-44E7-9364-D9722EA31DF9}}
HideNewField:	False	LastUpdated:	27/06/2017 14:18:13
NameMap:	Long binary data	OrderByOn:	False
OrderByOnLoad:	True	Orientation:	Left-to-Right
PublishToWeb:	1	ReadOnlyWhenDisconnected	False
RecordCount:	0	ThemeFontIndex:	1
TotalsRow:	False	Updatable:	True

Columns

Name	Type	Size
serialNumber	Text	10
AggregateType:	-1	
AllowZeroLength:	True	
AppendOnly:	False	
Attributes:	Variable Length	
CollatingOrder:	General	
ColumnHidden:	False	
ColumnOrder:	Default	
ColumnWidth:	Default	
CurrencyLCID:	0	
DataUpdatable:	False	
DisplayControl:	Text Box	
GUID:	{guid {D96839DA-D029-404D-B29E-6CA70D8848C7}}	
IMEMode:	0	
IMESentenceMode:	3	
OrdinalPosition:	0	
Required:	True	
ResultType:	0	
SourceField:	serialNumber	
SourceTable:	tblAmplifier	
TextAlign:	General	
UnicodeCompression:	False	
ValidationRule:	Len([serialNumber])=10	
dateBuilt	Date/Time	8
AggregateType:	-1	
AllowZeroLength:	False	
AppendOnly:	False	
Attributes:	Fixed Size	
CollatingOrder:	General	
ColumnHidden:	False	
ColumnOrder:	Default	
ColumnWidth:	Default	
CurrencyLCID:	0	
DataUpdatable:	False	
GUID:	{guid {489AA740-B7B9-4CB6-A42D-9A9A21133D2F}}	
IMEMode:	0	
IMESentenceMode:	3	

Table: tblAmplifier Page: 2

	OrdinalPosition:	1
	Required:	True
	ResultType:	0
	ShowDatePicker:	For dates
	SourceField:	dateBuilt
	SourceTable:	tblAmplifier
	TextAlign:	General
timeCompleted	Date/Time	8
	AggregateType:	-1
	AllowZeroLength:	False
	AppendOnly:	False
	Attributes:	Fixed Size
	CollatingOrder:	General
	ColumnHidden:	False
	ColumnOrder:	Default
	ColumnWidth:	Default
	CurrencyLCID:	0
	DataUpdatable:	False
	GUID:	{guid {A7A1944D-0F73-402C-BBB8-0E26A51A78D0}}
	IMEMode:	0
	IMESentenceMode:	3
	OrdinalPosition:	2
	Required:	True
	ResultType:	0
	ShowDatePicker:	For dates
	SourceField:	timeCompleted
	SourceTable:	tblAmplifier
	TextAlign:	General
model	Text	7
	AggregateType:	-1
	AllowMultipleValues:	False
	AllowValueListEdits:	True
	AllowZeroLength:	True
	AppendOnly:	False
	Attributes:	Variable Length
	BoundColumn:	1
	CollatingOrder:	General
	ColumnCount:	1
	ColumnHeads:	False
	ColumnHidden:	False
	ColumnOrder:	Default
	ColumnWidth:	Default
	ColumnWidths:	1440
	CurrencyLCID:	0
	DataUpdatable:	False
	DisplayControl:	Combo Box
	GUID:	{guid {D76C28C4-E235-4B3C-B0DD-3EBEDA0D75A4}}
	IMEMode:	0
	IMESentenceMode:	3
	LimitToList:	False
	ListRows:	16
	ListWidth:	1440twip
	OrdinalPosition:	3
	Required:	True
	ResultType:	0
	RowSource:	"Jazz8";"Rock100";"Blue55"
	RowSourceType:	Value List
	ShowOnlyRowSourceValues:	False

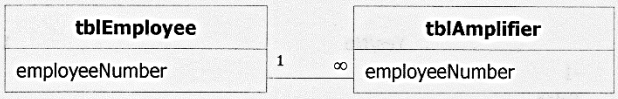
Table: tblAmplifier Page: 3

	SourceField:	model
	SourceTable:	tblAmplifier
	TextAlign:	General
	UnicodeCompression:	True
testPassed	Yes/No	1
	AggregateType:	-1
	AllowZeroLength:	False
	AppendOnly:	False
	Attributes:	Fixed Size
	CollatingOrder:	General
	ColumnHidden:	False
	ColumnOrder:	Default
	ColumnWidth:	Default
	CurrencyLCID:	0
	DataUpdatable:	False
	DefaultValue:	0
	DisplayControl:	106
	Format:	Yes/No
	GUID:	{guid {4D449934-CFBB-4FA5-9A79-7EBF2BE49405}}
	OrdinalPosition:	4
	Required:	False
	ResultType:	0
	SourceField:	testPassed
	SourceTable:	tblAmplifier
	TextAlign:	General
employeeNumber	Long Integer	4
	AggregateType:	-1
	AllowMultipleValues:	False
	AllowValueListEdits:	True
	AllowZeroLength:	False
	AppendOnly:	False
	Attributes:	Fixed Size
	BoundColumn:	1
	CollatingOrder:	General
	ColumnCount:	1
	ColumnHeads:	False
	ColumnHidden:	False
	ColumnOrder:	Default
	ColumnWidth:	Default
	ColumnWidths:	1440
	CurrencyLCID:	0
	DataUpdatable:	False
	DecimalPlaces:	Auto
	DisplayControl:	Combo Box
	GUID:	{guid {3F019A39-E4C4-4051-98E4-E01BFA3F00F7}}
	LimitToList:	False
	ListRows:	16
	ListWidth:	1440twip
	OrdinalPosition:	5
	Required:	False
	ResultType:	0
	RowSource:	SELECT [tblEmployee].[employeeNumber] FROM tblEmployee;
	RowSourceType:	Table/Query
	ShowOnlyRowSourceValues:	False
	SourceField:	employeeNumber
	SourceTable:	tblAmplifier
	TextAlign:	General

Table: tblAmplifier

Relationships

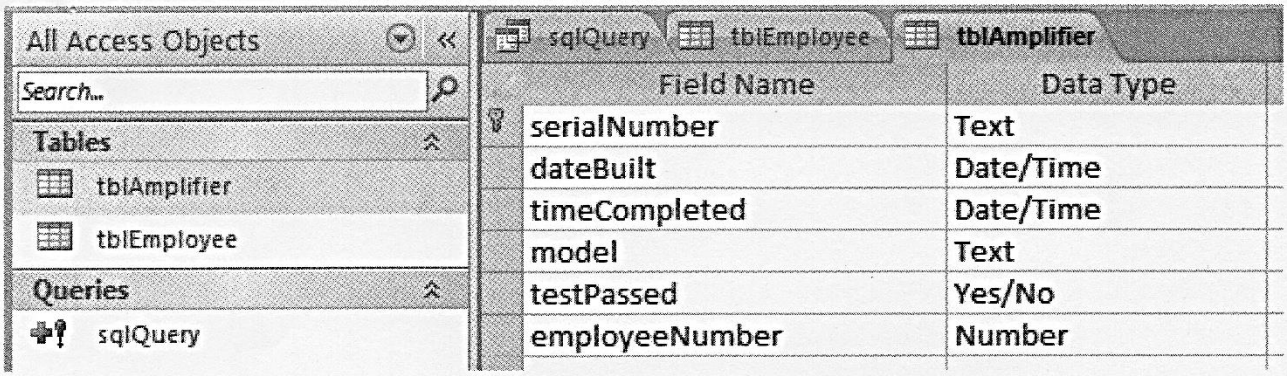
tblEmployeetblAmplifier

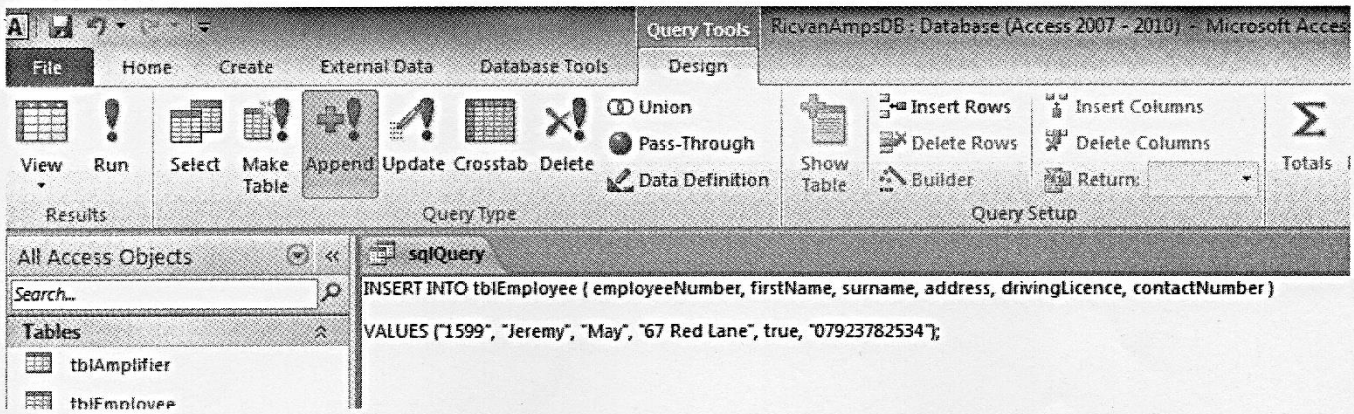


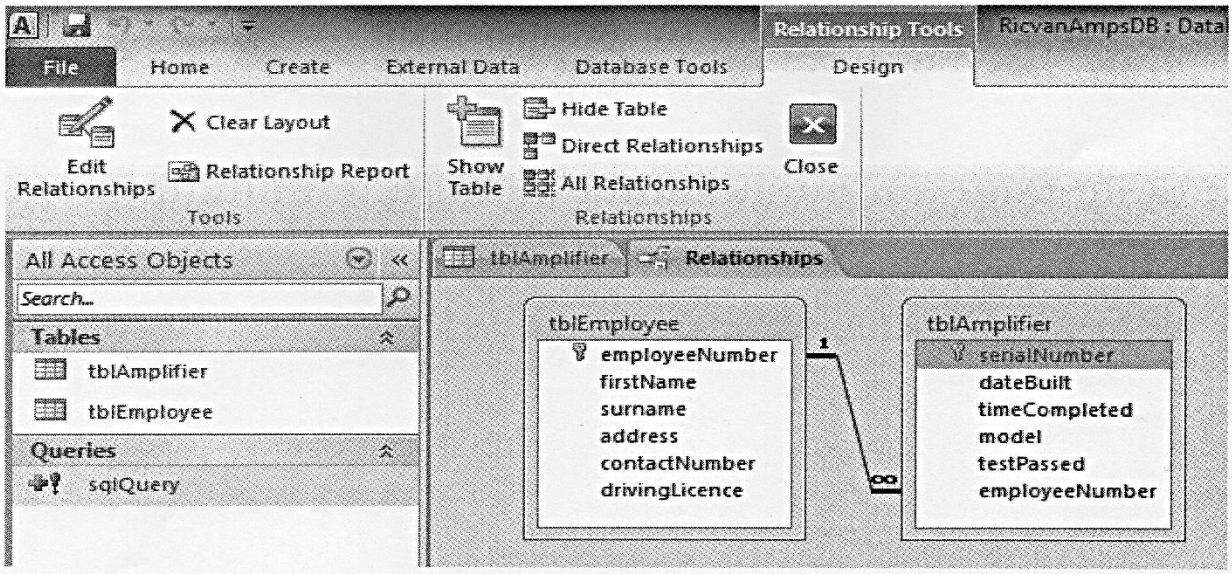
Attributes:	Enforced
RelationshipType:	One-To-Many

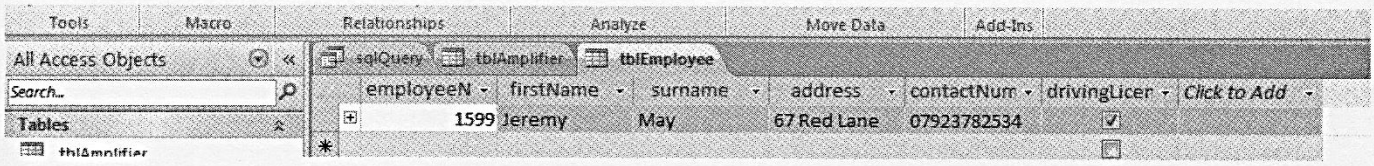
Table Indexes

Name	Number of Fields	
PrimaryKey	1	
Fields:		
serialNumber		Ascending
tblEmployeetblAmplifier	1	
Fields:		
employeeNumber		Ascending


All Access Objects
Search...
Tables
tblAmplifier
tblEmployee
Queries
sqlQuery
sqlQuery
tblEmployee
tblAmplifier
Field Name
Data Type
serialNumber
Text
dateBuilt
Date/Time
timeCompleted
Date/Time
model
Text
testPassed
Yes/No
employeeNumber
Number


Query Tools
RicvanAmpsDB : Database (Access 2007 - 2010) - Microsoft Acces
File
Home
Create
External Data
Database Tools
Design
View
Run
Select
Make Table
Append
Update
Crosstab
Delete
Union
Pass-Through
Data Definition
Show Table
Insert Rows
Delete Rows
Builder
Insert Columns
Delete Columns
Return:
Totals
Results
Query Type
Query Setup
All Access Objects
Search...
Tables
tblAmplifier
tblEmployee
sqlQuery
INSERT INTO tblEmployee (employeeNumber, firstName, surname, address, drivingLicence, contactNumber)
VALUES ("1599", "Jeremy", "May", "67 Red Lane", true, "07923782534");


Relationship Tools
RicvanAmpsDB : Data
File
Home
Create
External Data
Database Tools
Design
Edit Relationships
Clear Layout
Relationship Report
Tools
Show Table
Hide Table
Direct Relationships
All Relationships
Close
Relationships
All Access Objects
Search...
Tables
tblAmplifier
tblEmployee
Queries
sqlQuery
tblAmplifier
Relationships
tblEmployee
employeeNumber
firstName
surname
address
contactNumber
drivingLicence
1
∞
tblAmplifier
serialNumber
dateBuilt
timeCompleted
model
testPassed
employeeNumber


Tools
Macro
Relationships
Analyze
Move Data
Add-Ins
All Access Objects
Search...
Tables
sqlQuery
tblAmplifier
tblEmployee
employeeN
firstName
surname
address
contactNum
drivingLicer
Click to Add
1599
Jeremy
May
67 Red Lane
07923782534

Class BoardGameDetails - N5 CW Testing 1/3

```
1
2   /**
3    * Write a description of class BoardGameDetails here.
4    *
5    * @author (Amina Tahir)
6    * @version (V1)
7    */
8   //this imports lines.
9   import java.io.*;
10  import java.util.*;
11  import javax.swing.*;
12  import java.math.*;
13
14  public class BoardGameDetails
15  {
16      //Declares the varaible firstname.
17      private int aHits[ ];
18      private float vAverageHits;
19      private int vTotalHits;
20      private int vTeamPoints;
21
22      public BoardGameDetails()
23      {
24          //Initialises the variable first name to empty.
25          aHits= new int [6];
26          for (int i = 0; i < 6; i++)
27          {
28              aHits[i] = 0;
29          }
30          vTotalHits= 0;
31          vAverageHits = 0.00F;
32          vTeamPoints = 0;
33
34      }
35
36      public void setNumbers()
37      //this lets you enter the number of hits.
38      {
39          for (int i = 0; i < 6; i++)
40          {
41
42              aHits[i]=Integer.parseInt(JOptionPane.showInputDialog("Please
     enter the number of hits"));
43
44              while(aHits[i] <0 || aHits[i] >30)
45              {
46                  aHits[i]=Integer.parseInt(JOptionPane.showInputDialog("Pl
    ease re-enter the number of hits"));
47
```

Class BoardGameDetails – N5 CW Testing (continued) 2/3

```
48              }
49
50          }
51      }
52
53      public void calculateTotal()
54      //this calculates the total.
55      {
56          for (int i = 0; i < 6; i++)
57              vTotalHits= vTotalHits + aHits[i];
58          System.out.println("The total hits are:" + vTotalHits);
59
60      }
61
62      public void calculateAverage()
63      //this calculates the average.
64      {
65          vAverageHits= vTotalHits/6;
66          System.out.printf("The Average number of hits are:" + "%-20.2f",
    vAverageHits);
67          System.out.println();
68      }
69
70      public void calculatePoints()
71      //this calculates the points
72      {
73          if (vTotalHits >50)
74          //this calculates if the team gets a point if their total is grea
    ter the 50.
75          {
76              vTeamPoints = vTeamPoints + 1;
77              System.out.println("You have scored 1 point");
78
79          }
80          else
81          {
82              System.out.println("You have not scored a point");
83          }
84
85          if (vAverageHits>=10)
86          //this calculates if the team scores an extra point if their aver
    age is 10 or greater.
87          {
88              vTeamPoints =vTeamPoints + 1;
89              System.out.println("You have earned an extra point");
90
91          }
92          else
93
```

Class BoardGameDetails – N5 CW Testing (continued) 3/3

```
94          {
95              System.out.println("You have not earned an extra point");
96
97          }
98
99      }
100 }
```

Marks

2 a) Using the program analysis and flowchart design, implement the program in a language of your choice. Ensure the program matches the design. — 15

Printed evidence of the program code should be provided.

2 b) Complete the table below to create two sets of test data to demonstrate that the program correctly outputs the messages that one or both points have been earned. — 3

Type of Test	Input	Expected Output	Actual Output
Normal	Player 1: 2 Player 2: 13 Player 3: 5 Player 4: 9 Player 5: 15 Player 6: 4	Program displays message stating one point was earned.	Attach printouts of inputs and outputs as evidence.
Normal	Player 1: 10 Player 2: 10 Player 3: 10 Player 4: 10 Player 5: 10 Player 6: 10	Program displays message stating two points was earned.	Attach printouts of inputs and outputs as evidence.

Test your program using both sets of test data.

Printed evidence of inputs and outputs should be provided to show that each test has been completed.

2 c) The program should ensure that only a valid number of hits can be entered for each of the six players. — 2

State two extreme and one exceptional numerical value that could be used as part of a test run to check that only a valid number of hits can be entered.

Extreme: 30

Extreme: 0

Exceptional: wrong

Test data output:-

```
The total hits are:58
The Average number of hits are:9.00
You have scored 1 point
You have not earned an extra point
```

```
The total hits are:60
The Average number of hits are:10.00
You have scored 1 point
You have earned an extra point
```

2 d) Evaluate the program by completing the table below.

	Marks
Fitness for purpose It does what the aim of the program wants it to. Calculates Total, calculates average and calculates points and informs if a point has been scored or not.	1
Efficient use of coding constructs I Used an array instead of 6 repeating variables Used Input validation.	1
Robustness Testing I tested my data/program and recorded it. The Input validation didn't work at first so I fixed the code which made it fit for working.	1
Readability I Wrote comment lines. I Used auto layout to keep the code alligned and neat.	2

Marks

Task 3: Web Design and Development

Woodline Academy holds a pupil of the month competition. They wish to add a new page to their school website each month with the following content:

- The school name
- The month of the competition
- The name of the winning pupil
- A photo of the winning pupil
- A sound recording of an interview with the winning pupil

3 a) State one end-user requirement and two functional requirements for the new page. 3

End-User Requirement Play pupil interview audio
Functional Requirement 1 Display correct image with given dimensions.
Functional Requirement 2 Display the "the School name".

```
<html>

<head> <title>Woodline Academy - Pupil of the Month Page</title>
<link rel="stylesheet" type="text/css" href="trialNat5CourseworkTask3.css">
</head>

<body>

<div id="pageHeader">
    School Name
</div>

<div id="month">
    <p>Month</p>
</div></br>

<div>
    <img id="pupilPhoto" src="winning pupil photo.jpg">
</div></br>

<div id="pupilName">
    </p>Pupil Name</p>
</div></br>

<div>
    <audio controls>
        <source src="Pupil Interview mp3.mp3" type="audio/mpeg">
        <source src="Pupil Interview Wav.wav" type="audio/wav">
    </audio>
</div>


</body>
</html>
```

```
body{
background-color:blue;
}

#pageheader{
font-family:Tahoma;
font-size:16px;
text-align:center;
}

#month{
font-family:Tahoma;
font-size:14px;
color:white;
}

#pupilPhoto{
width:200px;
height:250px
float:left;
}

#pupilName{
font-family:Tahoma;
font-size:14px;
color:white;
}
```

School Name

Month

Pupil Name

0:00 / 0:11