Name:
Candidate Number:

Task 1: Database Design and Development

Part 1

Ricvan Amps design and build amplifiers for electric guitars. Below is a description of the information currently recorded for each employee and the amplifiers the employees build.

When a new employee starts working at Ricvan Amps, their first name, surname, address, contact telephone number and if they have a driving licence is recorded.

Employees build three different models of amplifier (Jazz8, Rock100 and Blues55). After each amplifier has been built and tested it is given a unique serial number which the employee enters onto a paper form. They also include the date, time of day completed, if the amplifier passed testing and their own unique employee number assigned when they were first employed.

1 a) Complete the information missing from the analysis of inputs below.

Employee details:
First name surname address contact telephone number driving licence (True/False)

Amplifier details:
Serial Number
Date Built
Time Completed
Model
Passed Test (True/False)
Employee Number

1 b) Complete the data dictionary for the Amplifier entity.

Entity Name: Amplifier					
Attribute Name	**Key**	**Type**	**Size**	**Required**	**Validation**
serialNumber	PK	text	10	Y	length = 10
dateBuilt	-	date	-	Y	-
timeCompleted	-	time	-	Y	-
model	-	text	7	Y	Presence check Restricted choice Presence check
testPassed	-	Boolean	-	Y	
employeeNumber	FK	number	-	Y	Existing employeeNumber from Employee table

Check your answers to 1a) and 1b) as Part 1 will not be returned to you after you submit it.

Submit Part 1 and collect Part 2.

Table: tblAmplifier Page: 1

Properties

AlternateBackShade:	95	AlternateBackThemeColorIn	1
AlternateBackTint:	100	BackShade:	100
BackTint:	100	DatasheetForeThemeColorIn	0
DatasheetGridlinesThemeCol	3	DateCreated:	27/06/2017 08:54:55
DefaultView:	2	DisplayViewsOnSharePointSi	1
FilterOnLoad:	False	GUID:	{guid {90EBF548-41C4-4FE6-B62C-D7742300FC22}}
HideNewField:	False	LastUpdated:	27/06/2017 09:04:43
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 {AEA871D6-8D3A-41B1-A99F-6E46A5FF5BEA}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	0
Required:	True
ResultType:	0
SourceField:	serialNumber
SourceTable:	tblAmplifier
TextAlign:	General
UnicodeCompression:	False

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 {4F826CFD-694F-4F55-8C95-B48C6914139D}}
IMEMode:	0
IMESentenceMode:	3
OrdinalPosition:	1

Table: tblAmplifier Page: 2

	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 {742D1C3B-EC97-48B9-89A2-15BC8FD88BC8}}	
	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 {CFCEBBE4-9FFA-4CC0-95C8-0F0CB66E96D2}}	
	IMEMode:	0	
	IMESentenceMode:	3	
	LimitToList:	True	
	ListRows:	16	
	ListWidth:	1440twip	
	OrdinalPosition:	3	
	Required:	False	
	ResultType:	0	
	RowSource:	"Jazz8";"Rock100";"Blues55"	
	RowSourceType:	Value List	
	ShowOnlyRowSourceValues:	False	
	SourceField:	model	

Table: tblAmplifier Page: 3

	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:	True/False	
	GUID:	{guid {44C932A1-AC20-4B11-BDD0-6751901FD5A6}}	
	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 {DE7EA40A-5159-4A69-AFCA-957E8266FA3E}}	
	LimitToList:	False	
	ListRows:	16	
	ListWidth:	1440twip	
	OrdinalPosition:	5	
	Required:	True	
	ResultType:	0	
	RowSource:	SELECT [tblEmployee].[employeeNumber] FROM tblEmployee;	
	RowSourceType:	Table/Query	
	ShowOnlyRowSourceValues:	False	
	SourceField:	employeeNumber	
	SourceTable:	tblAmplifier	
	TextAlign:	General	

Table: tblAmplifier Page: 4

Relationships

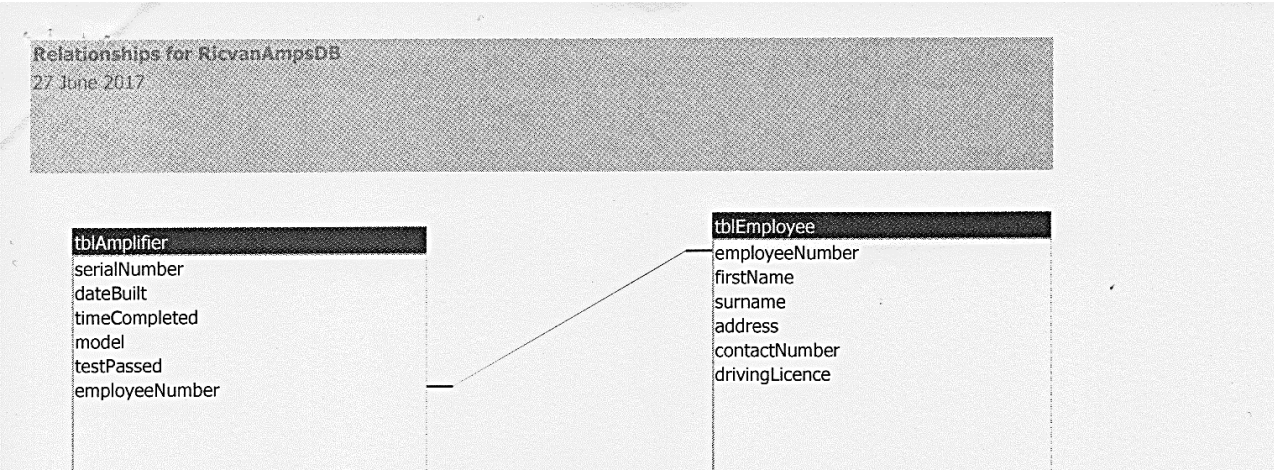
tblEmployeetblAmplifier

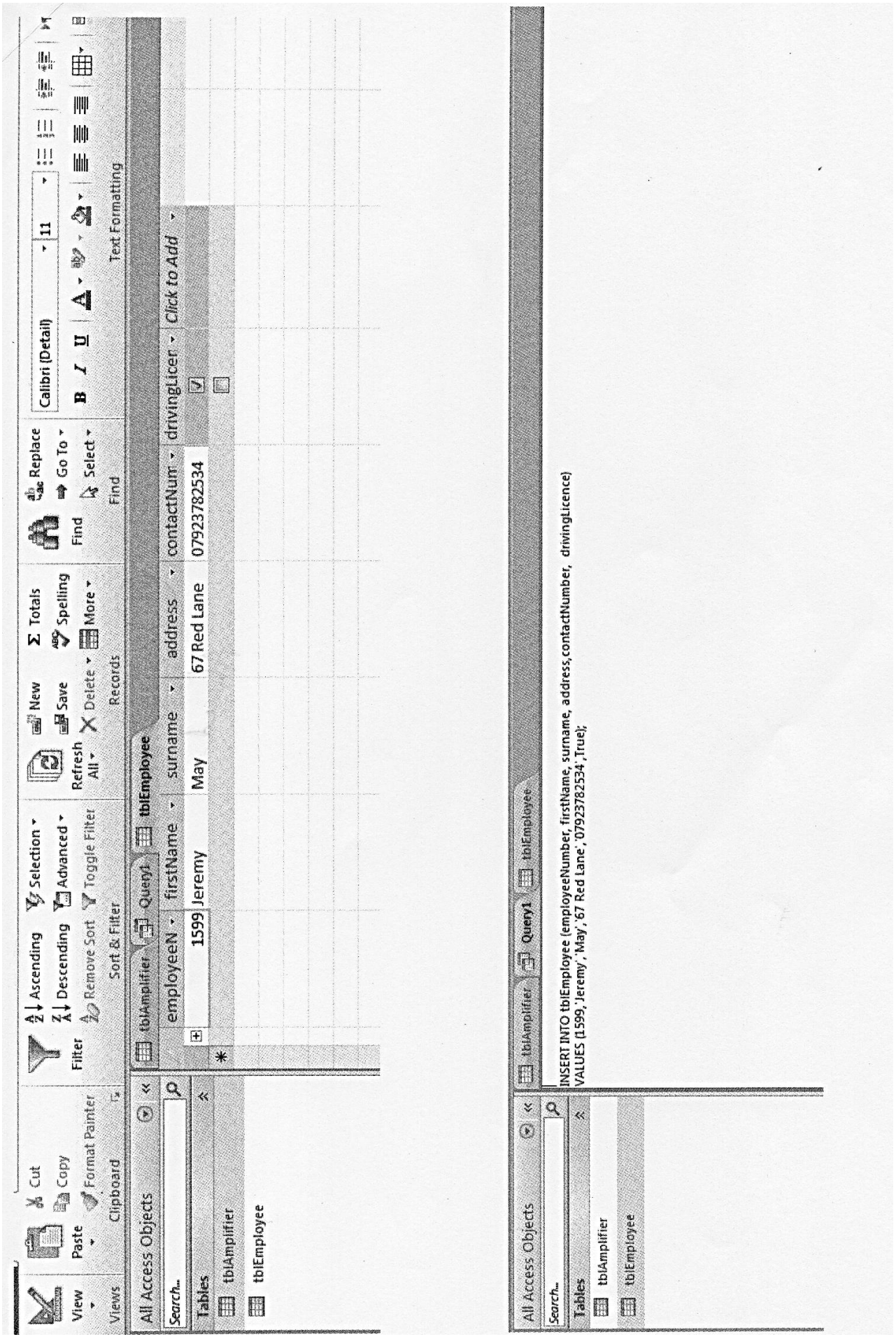
tblEmployee	tblAmplifier
employeeNumber	employeeNumber

Attributes: Not Enforced
RelationshipType: One-To-Many

Table Indexes

Name	Number of Fields
PrimaryKey	1
Fields:	
serialNumber	Ascending




View
Paste
Cut
Copy
Format Painter
Clipboard
Filter
Ascending
Descending
Remove Sort
Selection
Advanced
Toggle Filter
Sort & Filter
Refresh All
New
Save
Delete
Totals
Spelling
More
Records
Find
Replace
Go To
Select
Find
Calibri (Detail)
11
Text Formatting
All Access Objects
Search...
Tables
tblAmplifier
tblEmployee
tblAmplifier
Query1
tblEmployee
employeeN
firstName
surname
address
contactNum
drivingLicer
Click to Add
1599
Jeremy
May
67 Red Lane
07923782534
INSERT INTO tblEmployee (employeeNumber, firstName, surname, address, contactNumber, drivingLicence)
VALUES (1599,'Jeremy','May','67 Red Lane','07923782534',True);

module1

```
total=0

for loop in range (1,7):
    print("How many hits did player", loop, "get?")
    hits=int(input(""))
    while hits<0 or hits>30:
        print("hits have to be between 0 and 30, try again:")
        hits=int(input(""))
    total=total+hits

average=total/6
average=round(average,2)
points=0

if total>50:
    print("you have earned 1 point!")
    points=points+1

if average>=10:
    print("you have earned and adittional point, you now have 2 points"
    points=points+1

if points==0:
    print("you earned no points!")
```

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

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.

Type of Test	Input	Expected Output	Actual Output
Normal	Player 1: 4 Player 2: 8 Player 3: 9 Player 4: 9 Player 5: 8 Player 6: 9	Program displays message stating one point was earned.	Attach printouts of inputs and outputs as evidence.
Normal	Player 1: 20 Player 2: 20 Player 3: 20 Player 4: 20 Player 5: 20 Player 6: 20	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.

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: 35

```
>>> ================================ RESTART ================================
>>>
How many hits did player 1 get?
9
How many hits did player 2 get?
8
How many hits did player 3 get?
9
How many hits did player 4 get?
9
How many hits did player 5 get?
8
How many hits did player 6 get?
9
you have earned 1 point!
>>>
```

```
>>>
How many hits did player 1 get?
20
How many hits did player 2 get?
20
How many hits did player 3 get?
20
How many hits did player 4 get?
20
How many hits did player 5 get?
20
How many hits did player 6 get?
20
you have earned 1 point!
you have earned and adittional point, you now have 2 points
>>>
```

2 d) Evaluate your program by commenting on the following.

Fitness for purpose The code completes the task given fully as is calculates average and displays the points earned successfully
Efficiency of your code code includes several loops to make it more efficient
Robustness of your completed program Program crashes when text values are entered but other than that it runs fine
Readability of your code white spacing.

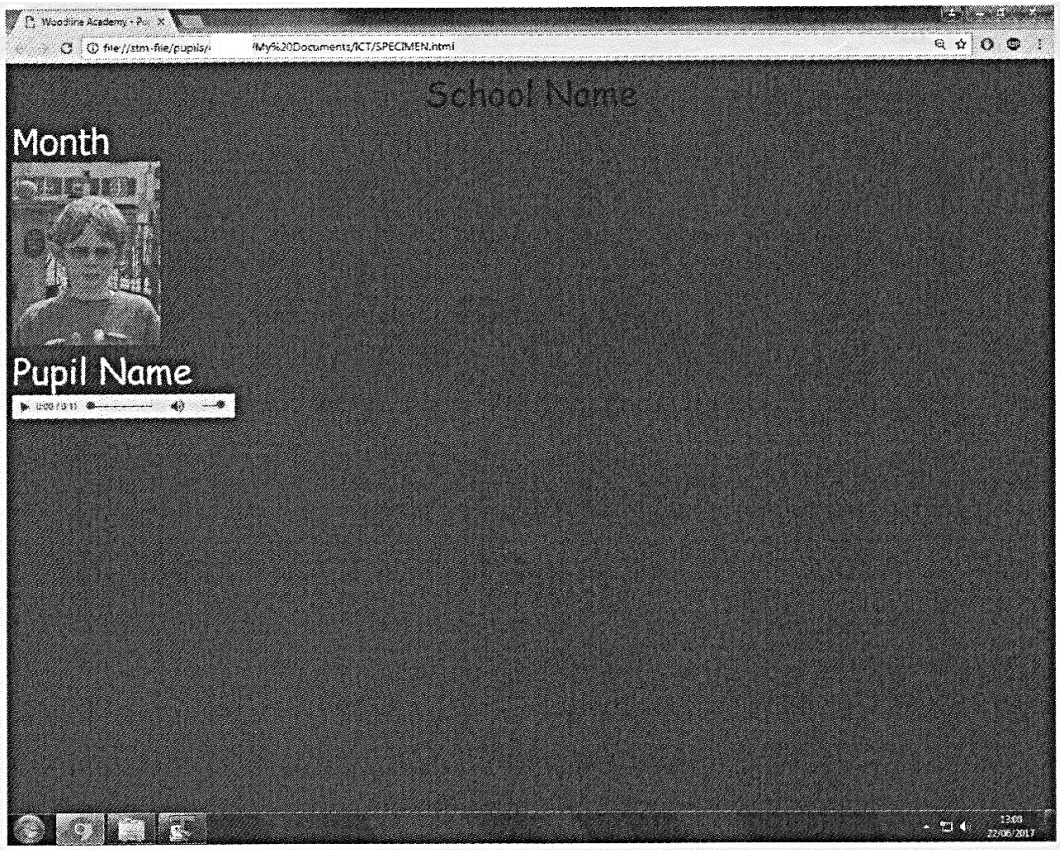
Task 3: Web Design and Development

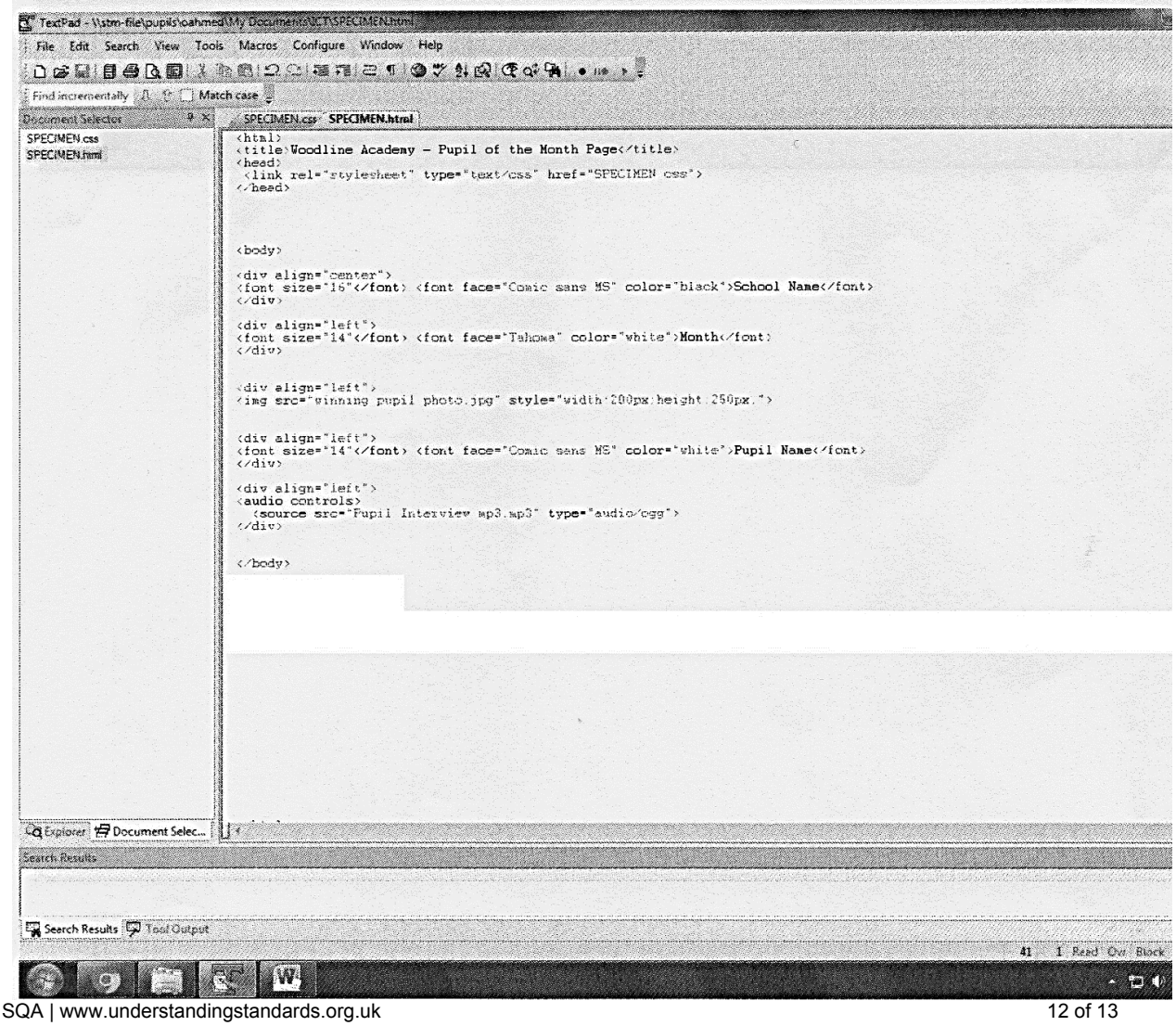
Woodline Academy holds a pupil of the month competition. They wish to add a new page to their school website each month with the following content:

- 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.

End-User Requirement They should be able to upload a photo of the winning pupil.
Functional Requirement 1 Display the photo
Functional Requirement 2 Show the school name.


Woodline Academy - Pu
file://stm-file/pupils/
/My%20Documents/ICT/SPECIMEN.html
School Name
Month
Pupil Name
0:00 / 0:11
13:03
22/06/2017


TextPad - \\stm-file\pupils\oahmed\My Documents\ICT\SPECIMEN.html
File Edit Search View Tools Macros Configure Window Help
Find incrementally
Match case
Document Selector
SPECIMEN.css
SPECIMEN.html
SPECIMEN.css
SPECIMEN.html
<html>
<title>Woodline Academy - Pupil of the Month Page</title>
<head>
<link rel="stylesheet" type="text/css" href="SPECIMEN.css">
</head>
<body>

 School Name

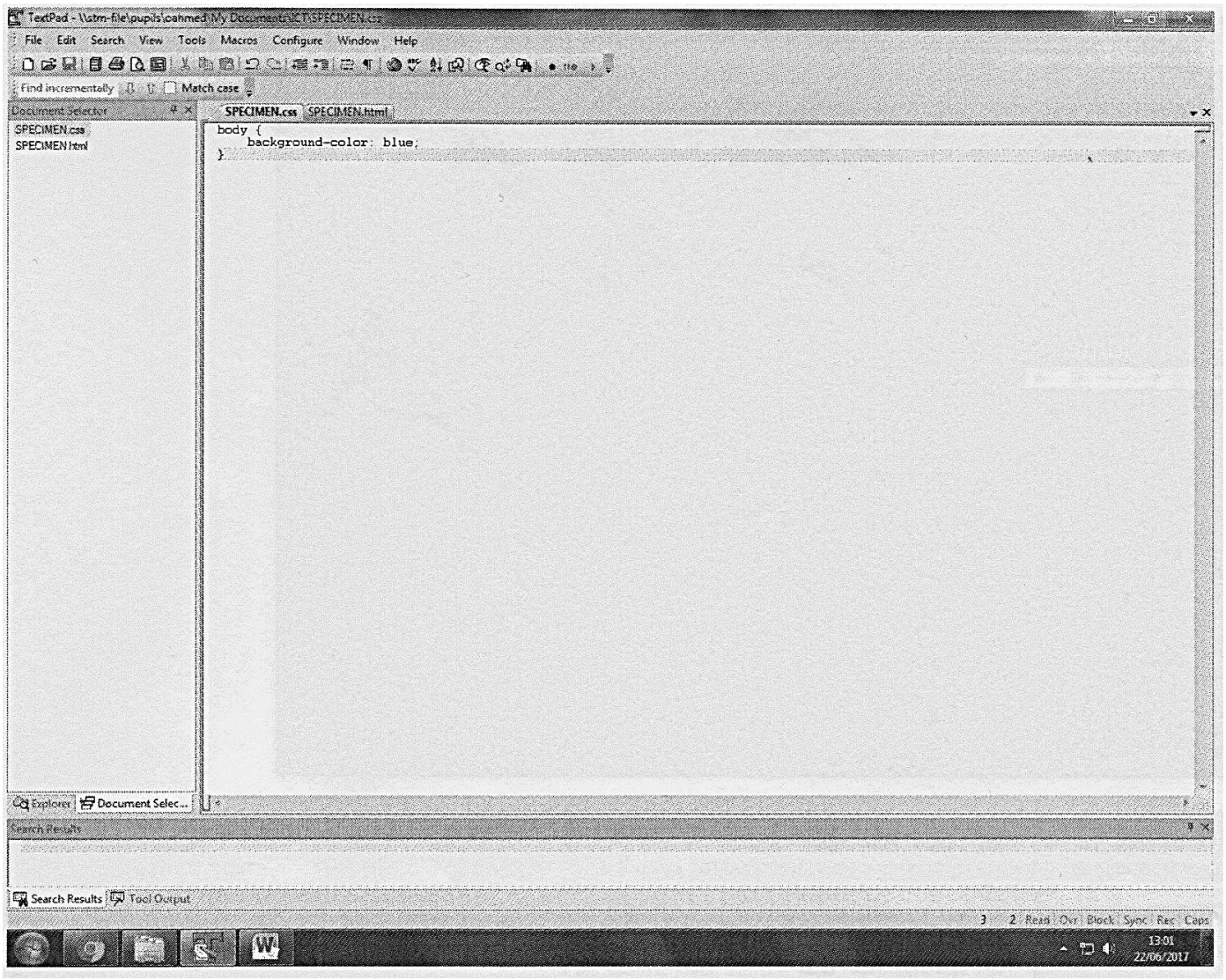
 Month

<img src="winning pupil photo.jpg" style="width:200px;height:250px;">

 Pupil Name

<audio controls>
<source src="Pupil Interview mp3.mp3" type="audio/ogg">

</body>
Explorer
Document Selec...
Search Results
Search Results
Tool Output
41 1 Read Ovr Block


TextPad - \\stm-file\pupils\cahmed\My Documents\CT\SPECIMEN.css
File Edit Search View Tools Macros Configure Window Help
Find incrementally
Match case
Document Selector
SPECIMEN.css
SPECIMEN.html
SPECIMEN.css
SPECIMEN.html
body {
background-color: blue;
}
Explorer
Document Selec...
Search Results
Search Results
Tool Output
Read Ovr Block Sync Rec Caps
13:01
22/06/2017