Pearson
BTEC

Example Solution

January 2022

Pearson BTEC Nationals

In Information Technology (31761H)

Unit 2 Creating Systems to Manage Information

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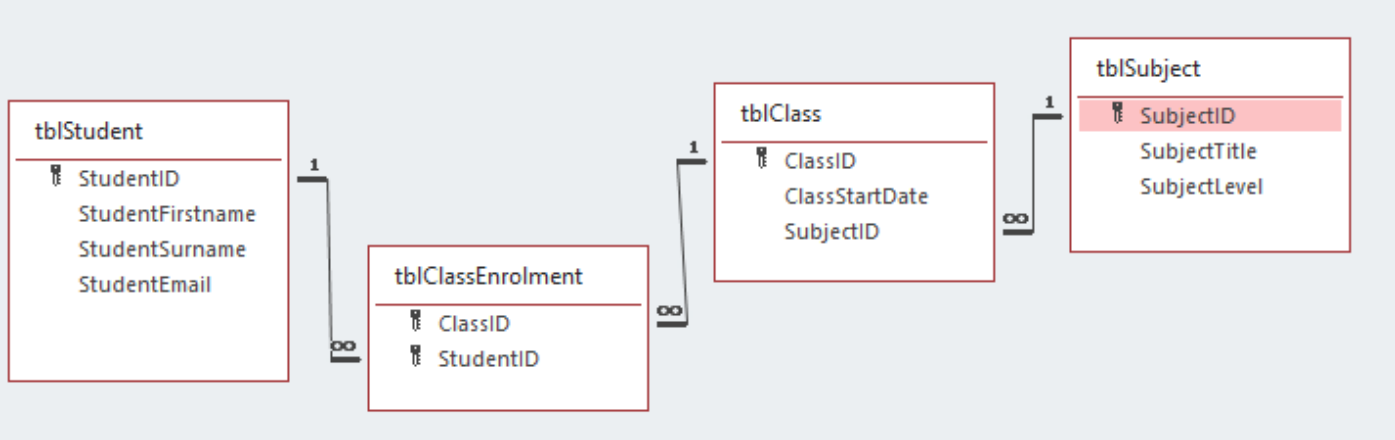
Part A

Activity 1 – Database relationships screenprint



Activity 2 – Table structures

tblStudent

Field Name	Data Type
StudentID	AutoNumber
StudentFirstname	Short Text
StudentSurname	Short Text
StudentEmail	Short Text

tblClass

Field Name	Data Type
ClassID	AutoNumber
ClassStartDate	Date/Time
SubjectID	Number

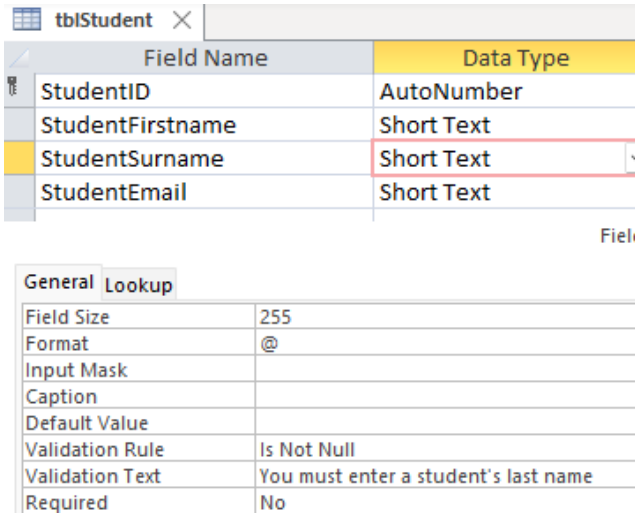
tblSubject

Field Name	Data Type
SubjectID	AutoNumber
SubjectTitle	Short Text
SubjectLevel	Number

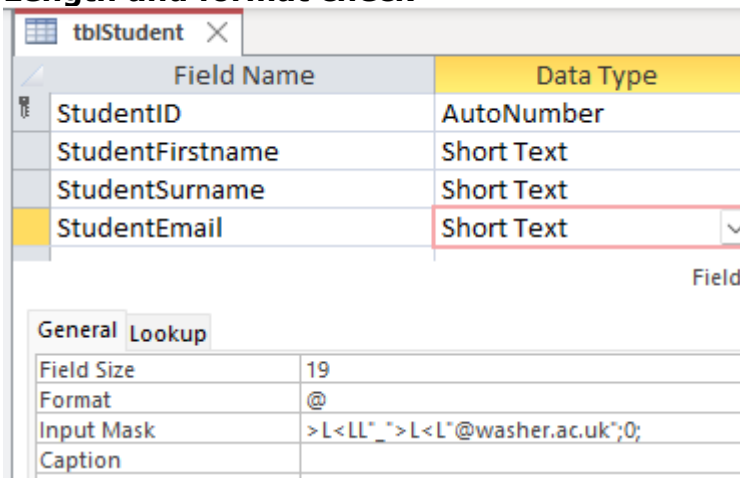
tblClassEnrolment

Field Name	Data Type
ClassID	Number
StudentID	Number

Presence check



Length and format check



Value lookup

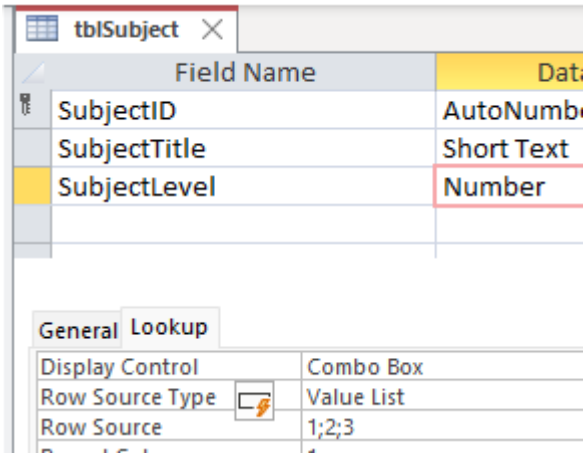
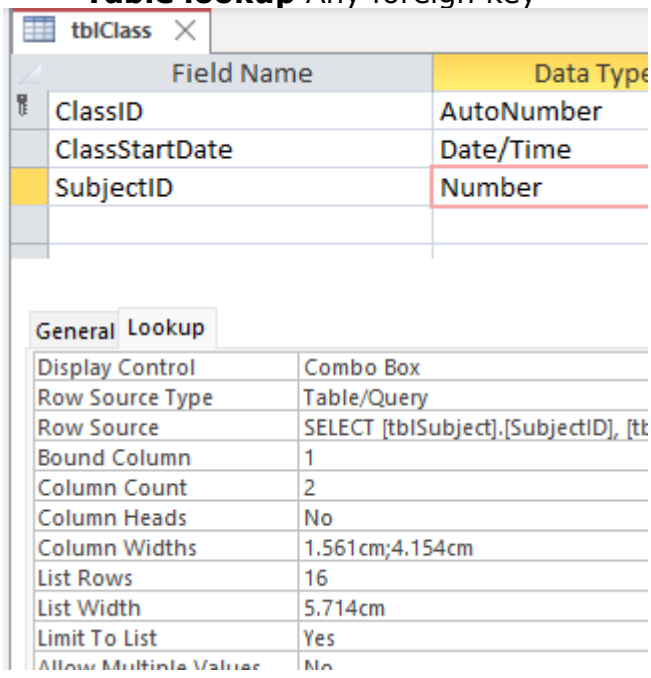
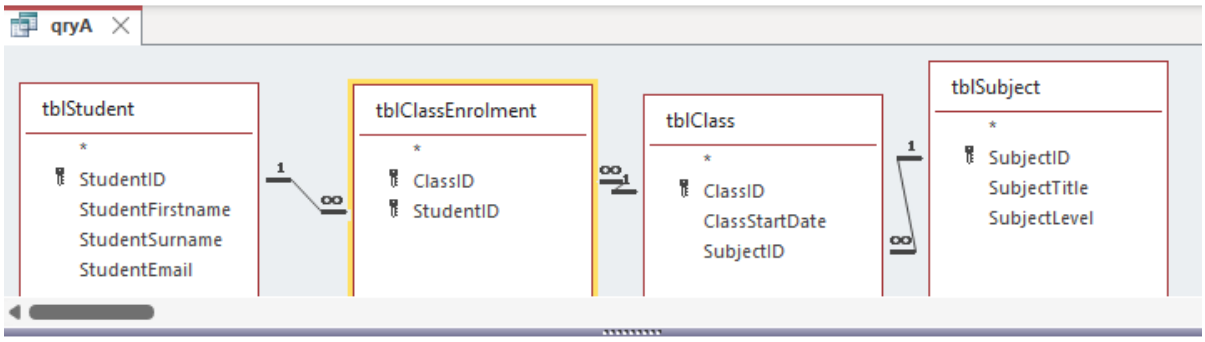


Table lookup Any foreign key



Activity 3 – Queries and report

(a) Create a query to display an alphabetically sorted list of student names who study GCSE Maths or BTEC Information Technology. The names must be sorted by surname and then firstname. It must show the full name of each student and the subject title only.



Field:	SubjectTitle	StudentSurname	StudentFirstname	
Table:	tblSubject	tblStudent	tblStudent	
Sort:		Ascending	Ascending	
Show:	☑	☑	☑	☐
Criteria:	"GCSE Maths" Or "BTEC Information Technology"			
or:				

qryA

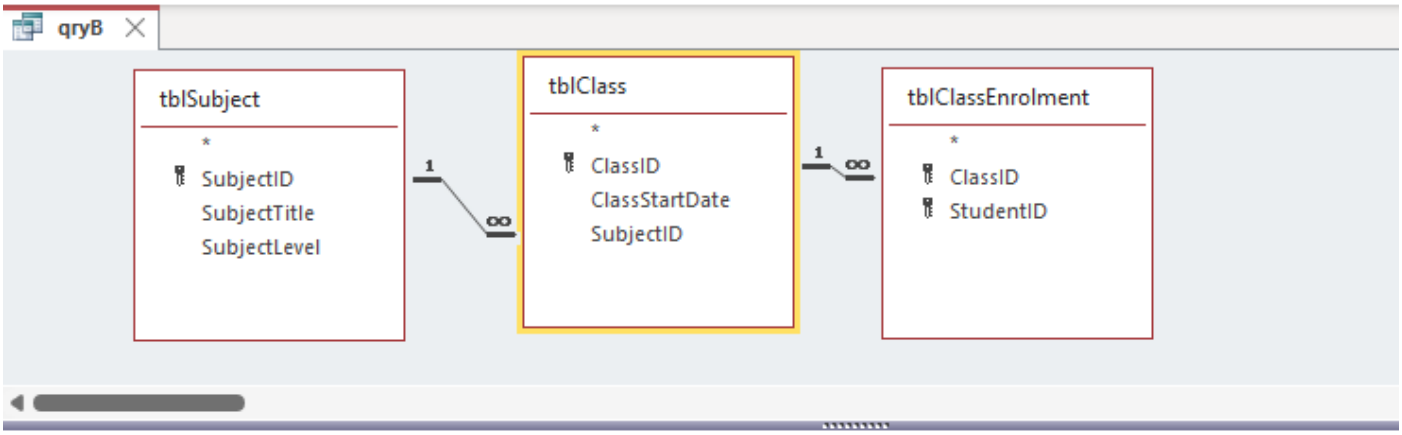
SubjectTitle	StudentSurname	StudentFirstname
GCSE Maths	Abbott	James
GCSE Maths	Bate	Lewis
BTEC Information Technology	Scott	Komal
GCSE Maths	Scott	Taylor

(b) Create a query that will calculate:

the number of students enrolled into each class.

Display:

- the subject title
- the number of students enrolled into each class
- a field with the automatically generated field content of "Still Spaces" if there are spaces left in a class



Field:	SubjectTitle	NumberEnrolled: StudentID	AnySpacesLeft: IIf([NumberEnrolled]<20,"Still Spaces","")	ClassID
Table:	tblSubject	tblClassEnrolment		tblClass
Total:	Group By	Count	Expression	Group By
Sort:				
Show:	☑	☑	☑	☐
Criteria:				
or:				

qryB

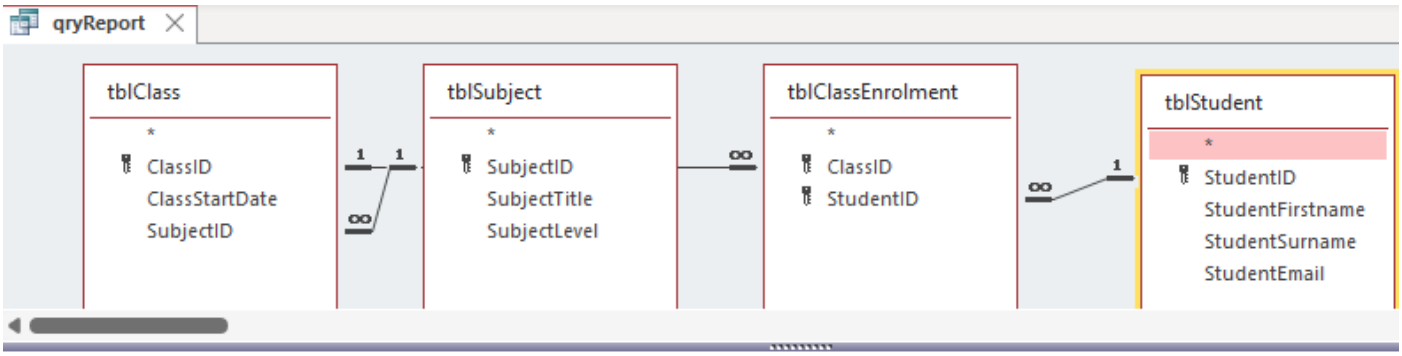
SubjectTitle	NumberEnrolled	AnySpacesLeft
A Level Computer Science	1	Still Spaces
AS Level Computer Science	2	Still Spaces
BTEC Information Technology	1	Still Spaces
GCSE Computer Science	2	Still Spaces
GCSE Maths	2	Still Spaces
GCSE Maths	1	Still Spaces

(c) Create a report that shows a list of classes.

For each class, calculate the total number of students enrolled:

Display:

- a suitable report title
- the class start date
- the subject title
- the names of the students enrolled
- the total number of students enrolled
- the overall number of enrolments in all classes.

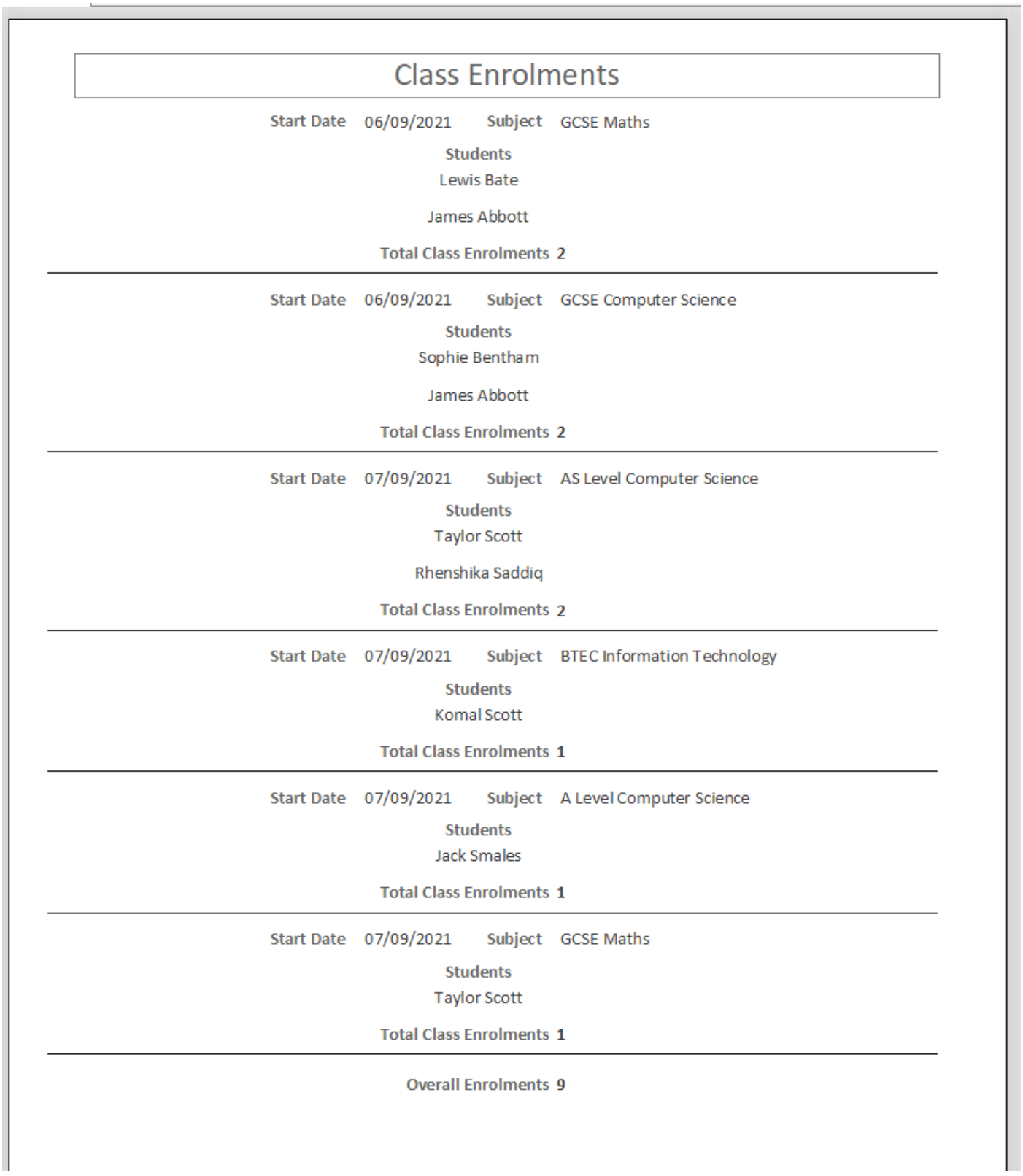


Field:	ClassID	ClassStartDate	SubjectTitle	Student: [StudentFirstname] & " " & [studentsurname]	
Table:	tblClass	tblClass	tblSubject		
Sort:					
Show:	☑	☑	☑	☑	☐
Criteria:					
or:					

qryReport

ClassID	ClassStartDate	SubjectTitle	Student
1	06/09/2021	GCSE Maths	James Abbott
1	06/09/2021	GCSE Maths	Lewis Bate
2	06/09/2021	GCSE Computer Science	James Abbott
2	06/09/2021	GCSE Computer Science	Sophie Bentham
3	07/09/2021	AS Level Computer Science	Rhenshika Saddiq
3	07/09/2021	AS Level Computer Science	Taylor Scott
4	07/09/2021	BTEC Information Technology	Komal Scott
5	07/09/2021	A Level Computer Science	Jack Smales
6	07/09/2021	GCSE Maths	Taylor Scott
(New)			

NOTE: The report is for illustration purposes only. There needs to be a pdf copy of the database report.



Class Enrolments

Start Date 06/09/2021 **Subject** GCSE Maths

Students

Lewis Bate

James Abbott

Total Class Enrolments 2

Start Date 06/09/2021 **Subject** GCSE Computer Science

Students

Sophie Bentham

James Abbott

Total Class Enrolments 2

Start Date 07/09/2021 **Subject** AS Level Computer Science

Students

Taylor Scott

Rhenshika Saddiq

Total Class Enrolments 2

Start Date 07/09/2021 **Subject** BTEC Information Technology

Students

Komal Scott

Total Class Enrolments 1

Start Date 07/09/2021 **Subject** A Level Computer Science

Students

Jack Smales

Total Class Enrolments 1

Start Date 07/09/2021 **Subject** GCSE Maths

Students

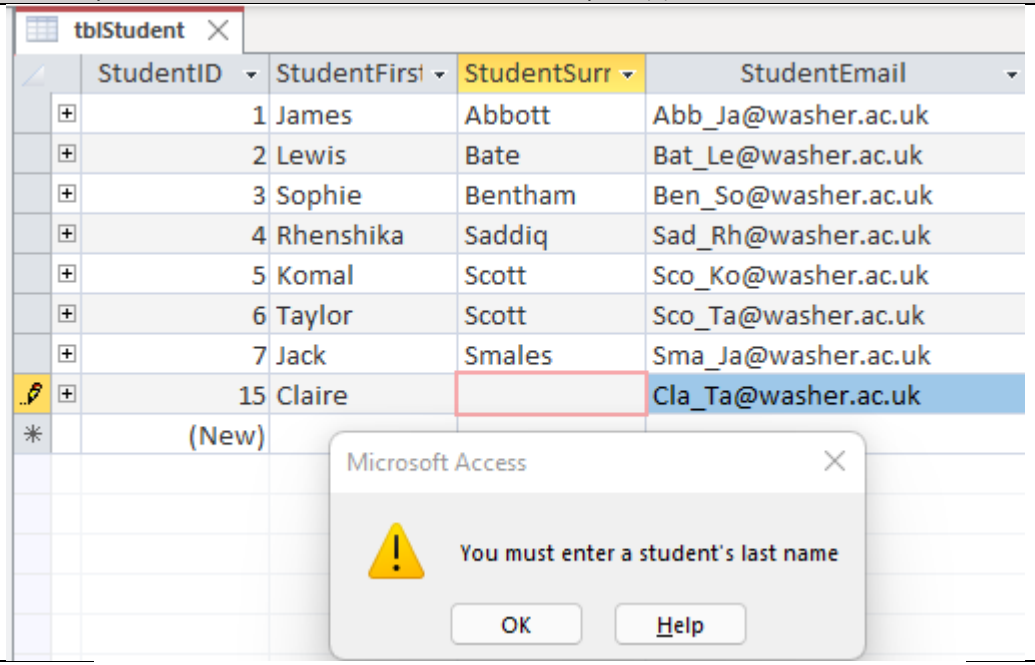
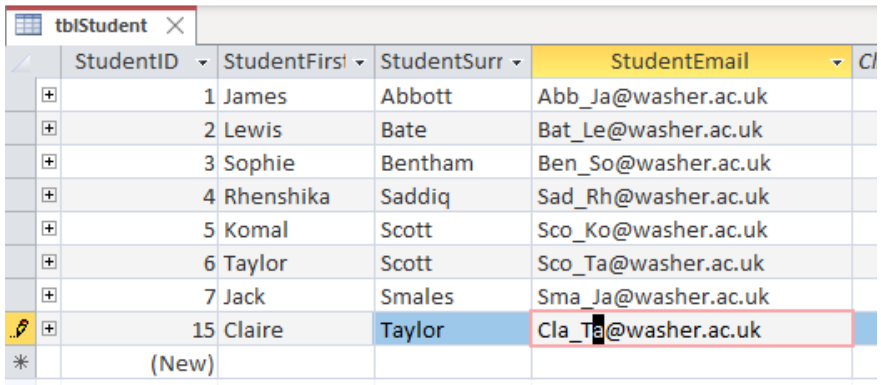
Taylor Scott

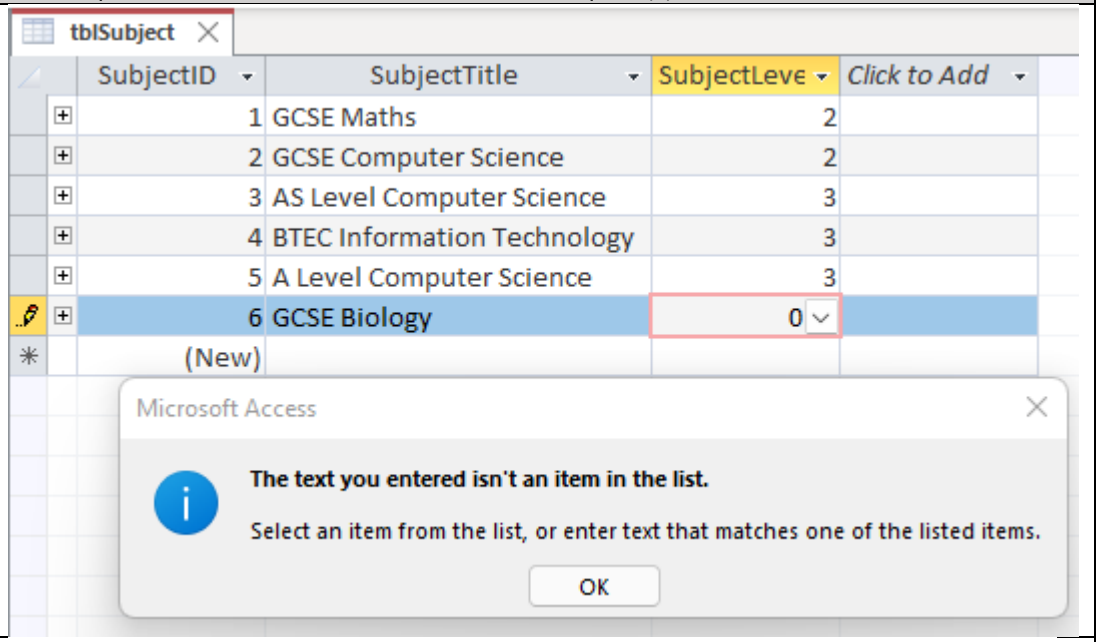
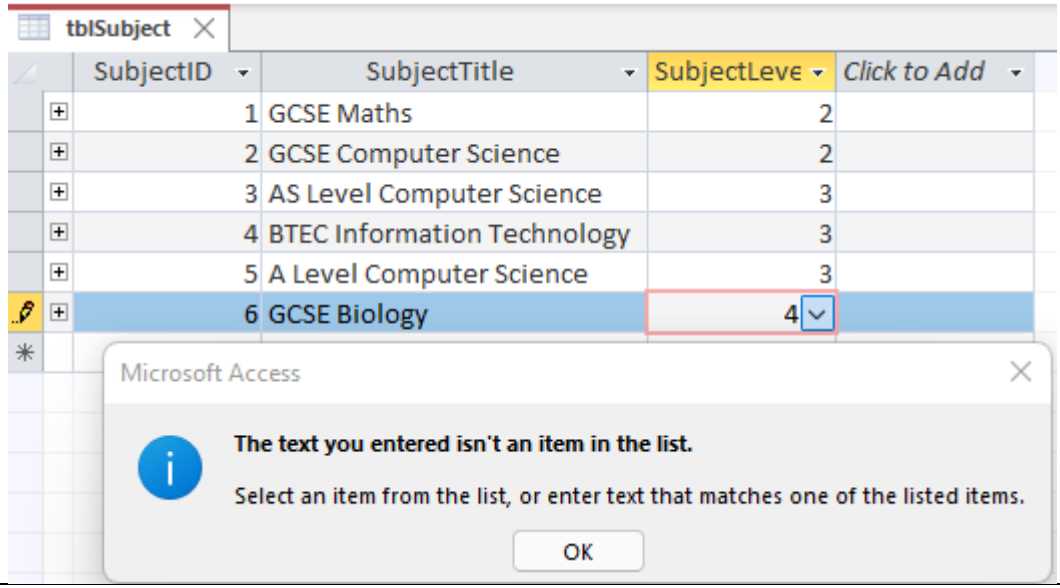
Total Class Enrolments 1

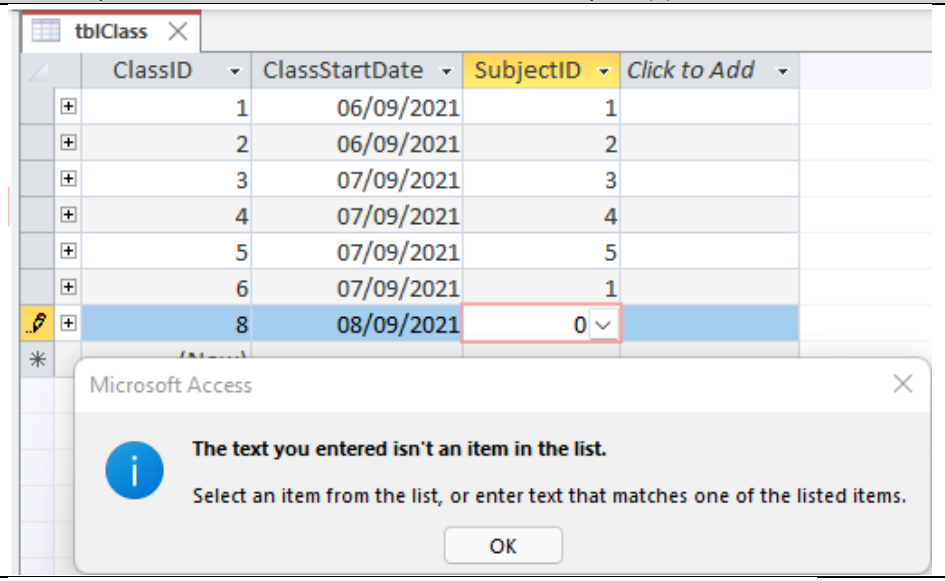
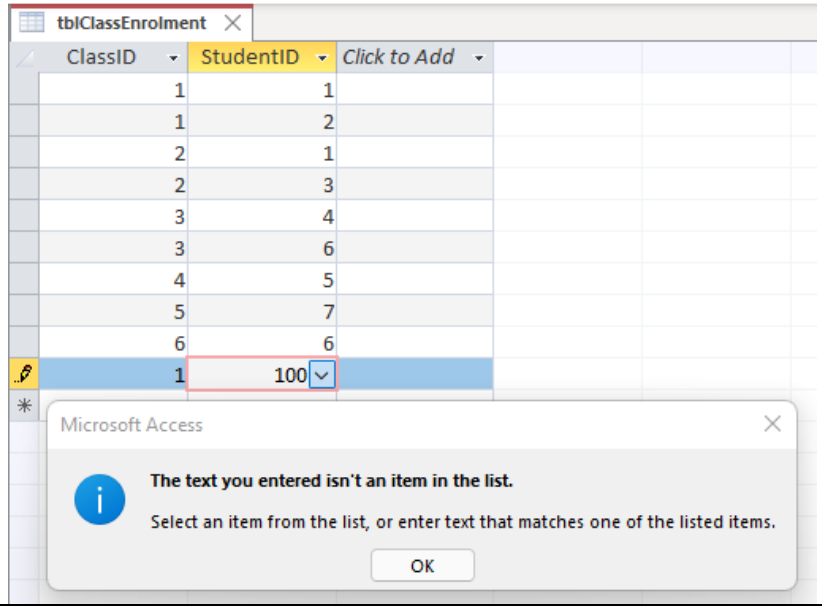
Overall Enrolments 9

Activity 4 – Structure testing

NOTE: The type of test and error column have been removed so that the contents are more easily readable in this format.

Test No	Test data	Expected results	Add screenprint(s) of the results of this test (and any retests) Ensure you show the test data used in the screenprint(s)
1	StudentID: 15 StudentFirstname: Claire StudentSurname StudentEmail: Cla_Ta@washer.ac.uk	An error message to appear telling the user they have to enter a student's last name	
2	StudentID: 15 StudentFirstname: Claire StudentSurname:Taylor StudentEmail: Cla_Tay@washer.ac.uk	No error message to appear but the cursor will not move on to allow the user to input the y	

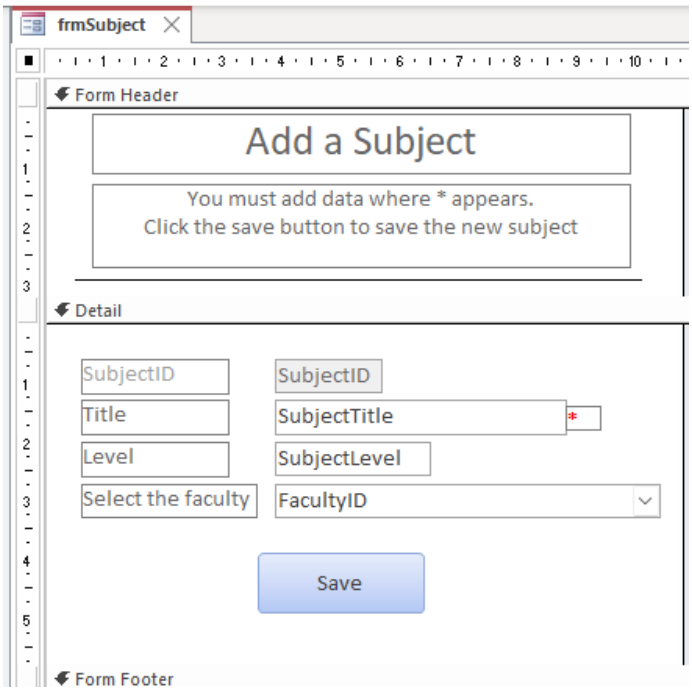
Test No	Test data	Expected results	Add screenprint(s) of the results of this test (and any retests) Ensure you show the test data used in the screenprint(s)
3	SubjectID: 6 SubjectTitle: GCSE Biology SubjectLevel: 0	An error message to appear telling the user the subject level they have input is not an item in the list and that they have to select an item from the list	
4	SubjectID: 6 SubjectTitle: GCSE Biology SubjectLevel: 4	An error message to appear telling the user the subject level they have input is not an item in the list and that they have to select an item from the list	

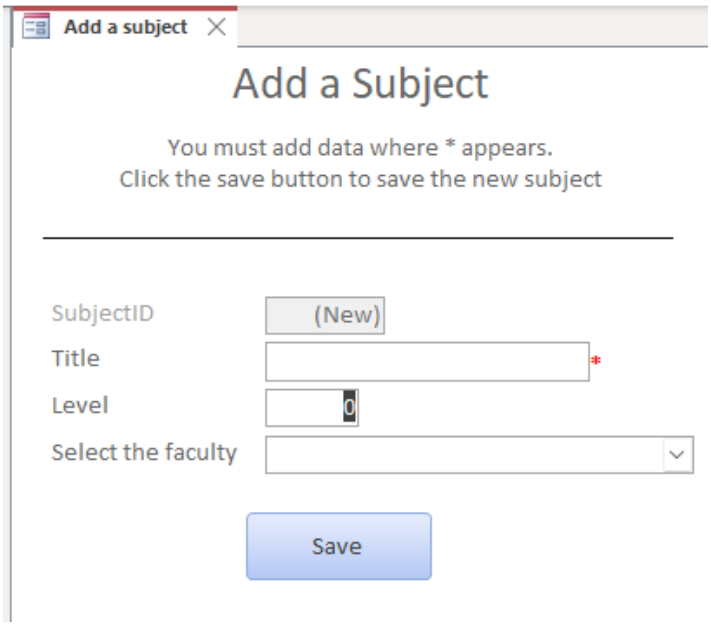
Test No	Test data	Expected results	Add screenprint(s) of the results of this test (and any retests) Ensure you show the test data used in the screenprint(s)
5	ClassID: 8 ClassStartDate: 08/09/2021 SubjectID: 0	An error message to appear telling the user the subject level they have input is not an item in the list and that they have to select an item from the list	
6	ClassID:1 StudentID: 100	An error message to appear telling the user the subject level they have input is not an item in the list and that they have to select an item from the list1	

Part B

Activity 6 – Interface

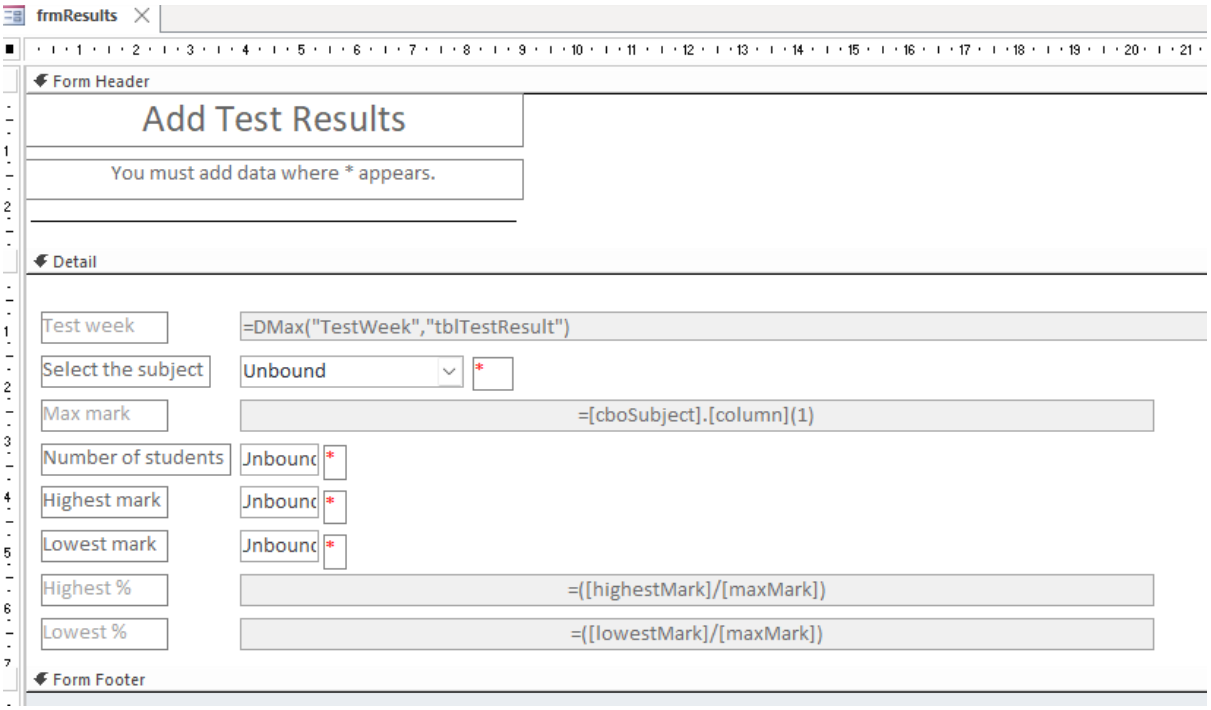
Subject form





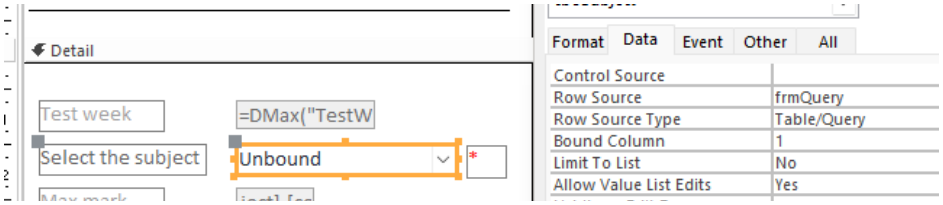

```
Private Sub cmdSave_Click()
    If IsNull(SubjectTitle) Then
        MsgBox "You must enter the subject title", vbOKOnly
    ElseIf SubjectLevel < 1 Or SubjectLevel > 3 Then
        MsgBox "The subject level must be 1, 2 or 3 only", vbOKOnly
    Else
        DoCmd.Save
        MsgBox "The subject has been saved", vbOKOnly
        DoCmd.GoToRecord , , acNewRec
    End If

End Sub
```

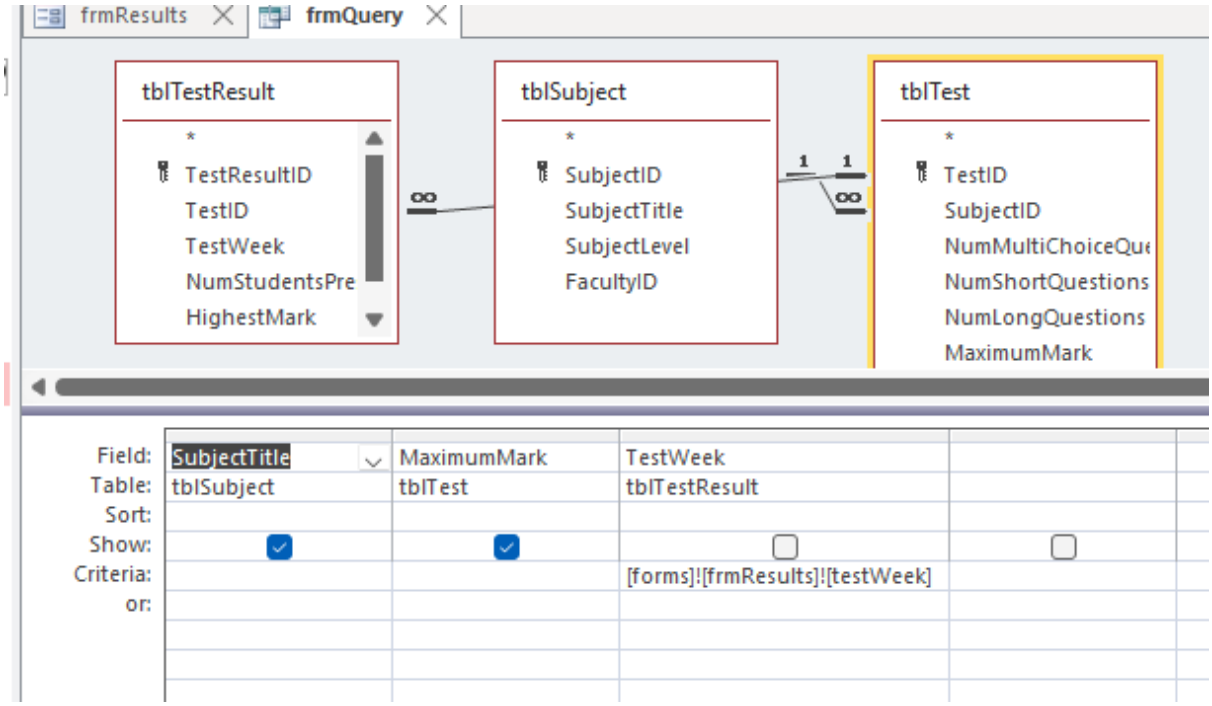
Test result form



Dmax used to find most recent test week

Combo box based on frmQuery. Test Week in frmQuery links to the TestWeek on the form

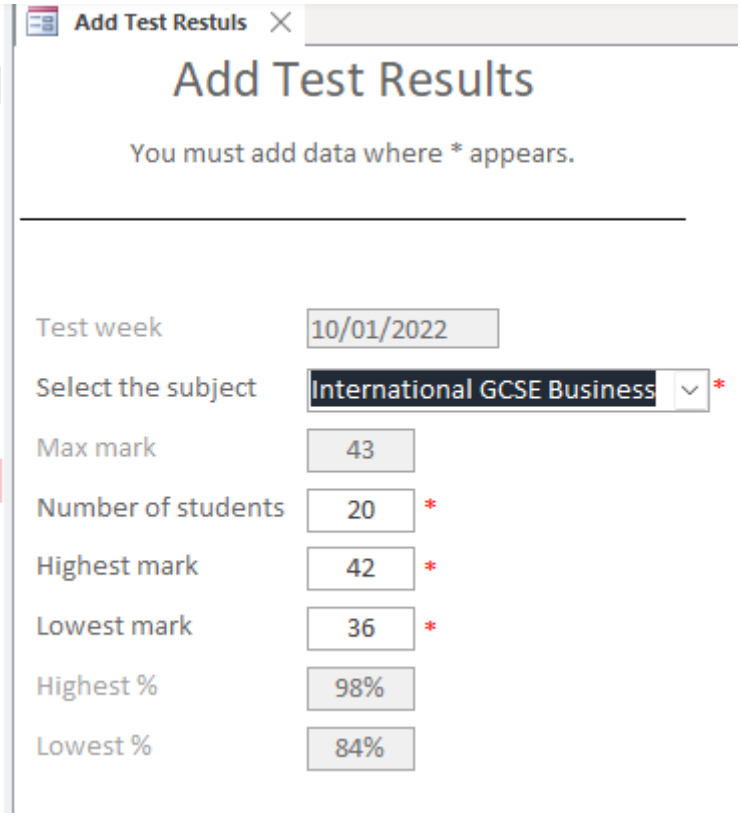




MaxMark linked to column 1 in the combo box i.e. MaximumMark (column 0 is SubjectTitle)

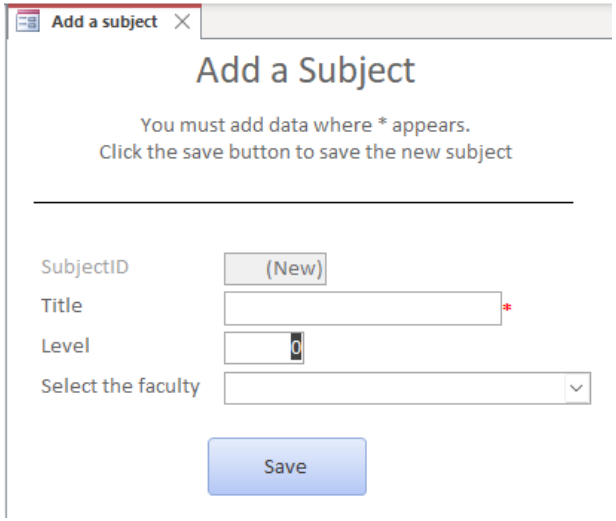
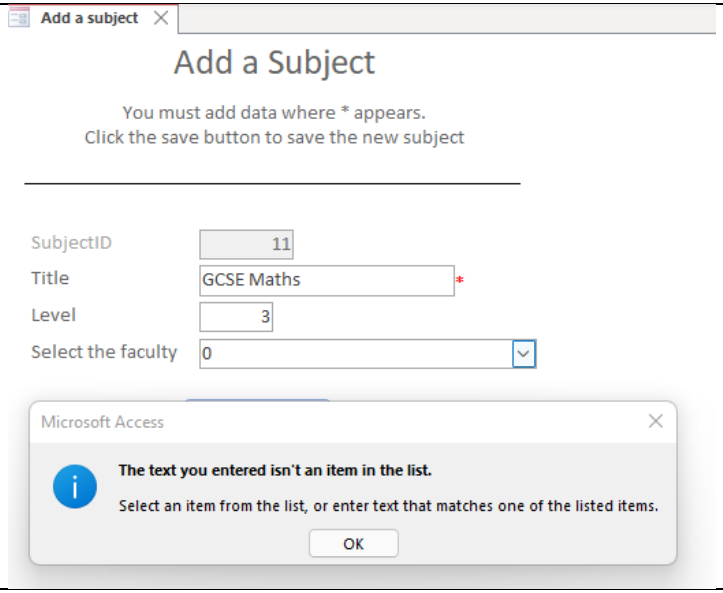
MaxMark would automatically update when Subject is selected because it gets its value from the column in the combo box

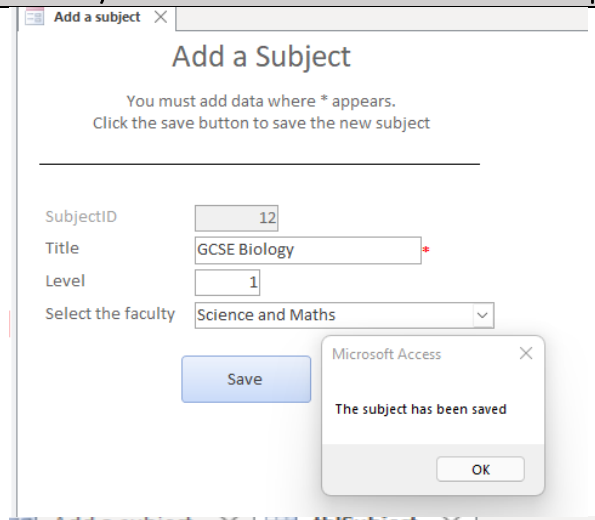
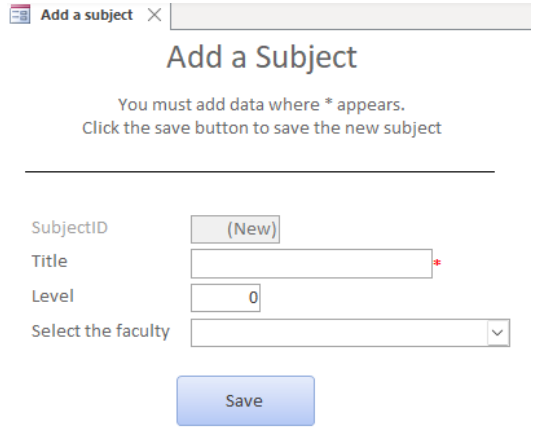
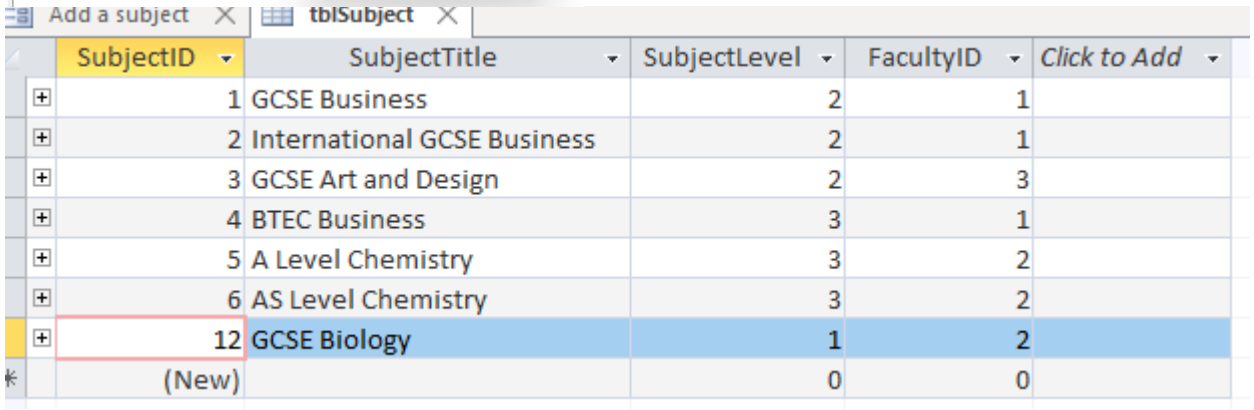
Higehst and Lowest percentages calculated and would refresh if different values input as they are formula

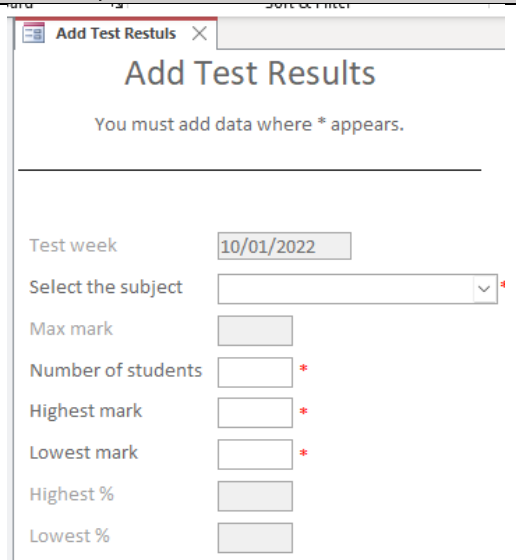
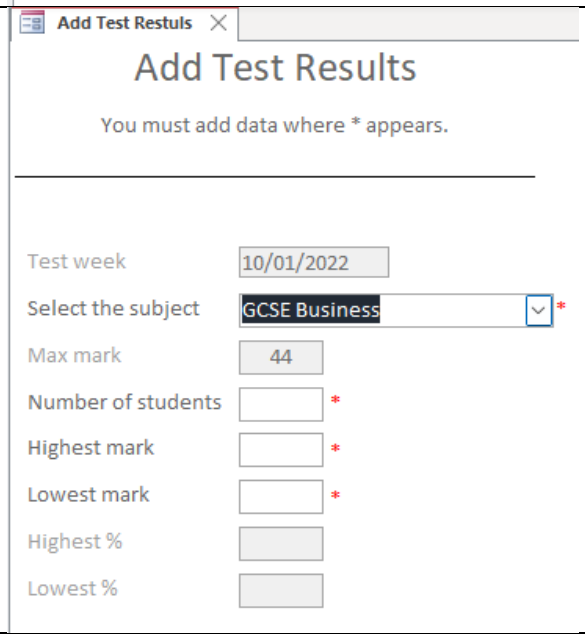
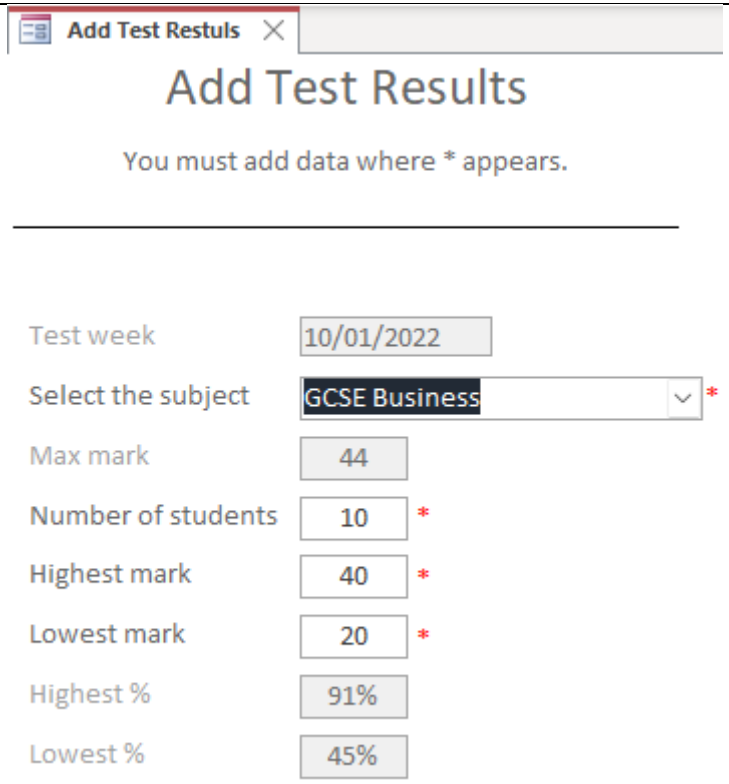


Activity 7 – Interface testing

NOTE: The type of test and error column have been removed so that the contents fit better on the screen.

Test No	Test data	Expected results	Add screenprint(s) of the results of this test (and any retests) Ensure you show the test data used in the screenprint(s)
1	Open the form	Subject ID will be (New) Level will be 0	
2	SubjectID: 11 Title: GCSE Maths Level: 3 Faculty: 0	An error message to appear saying the text you entered is not an item in the list and to select an item from the list	

Test No	Test data	Expected results	Add screenprint(s) of the results of this test (and any retests) Ensure you show the test data used in the screenprint(s)
3	SubjectID: 12 Title GCSE Biology Level: 1 Faculty: Science and Maths	Record to be saved in the subject table Form to clear Message to appear telling the save has taken place	  

Test No	Test data	Expected results	Add screenprint(s) of the results of this test (and any retests) Ensure you show the test data used in the screenprint(s)
4	Open the form	The highest test week of 10/01/2022 to automatically appear in the Test Week field and the rest of the fields to be blank	
5	Test Week: 10/01/2022 Subject: GCSE Business Max mark: blank Number of students: blank Highest mark: blank Lowest mark: blank Highest % blank Lowest % blank	Max mark will be automatically set to 44	

6	Test Week: 10/01/2022 Subject: GCSE Business Max mark: 44 Number of students: 10 Highest mark: 40 Lowest mark: 20	The Highest % to be automatically set to 91% The Lowest % to be automatically set to 45%