MICROSOFT ACCESS GUIDE

Chapter 3 – Forms and Reports

BTEC Level 3 INFORMATION TECHNOLOGY

Table of Content

1 Introduction to Forms and Reports

In this chapter you'll learn how to setup **forms** to enter, edit and view data in the Pass IT Driving school database.

Forms provide a **user-friendly on-screen interface** for data entry.

You are also going to be developing **reports** which are documents that presents data in an easyto-read, professional format. In this case the results of database queries are presented in an attractive format, with headings, fonts and colours designed to enhance understanding of the data.

2 Get the right database

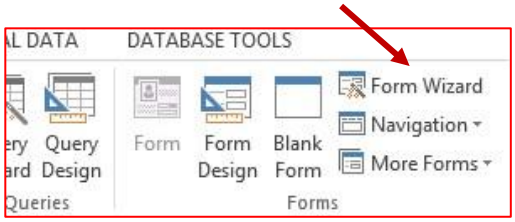
1. From the study directory > unit 2 > databases download the database called "**DrivingSchool chap 3 with queries"**
2. Please move it into your Unit 2 folder in your user area and open it

3 Validation recap

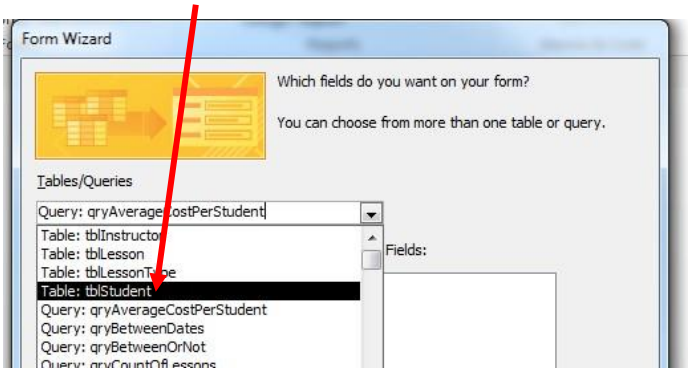
1. Open **tblStudent** in **Design view**
2. Create a validation rule in Surname, Firstname, Address1 and Mobile number to make these **required fields** (hint: the opposite is IS NULL!)
3. **Save tblStudent and close it**
4. Go through the rest of the tables and add the same validation rule where you think it is needed

4 Forms - Setting up the Student form

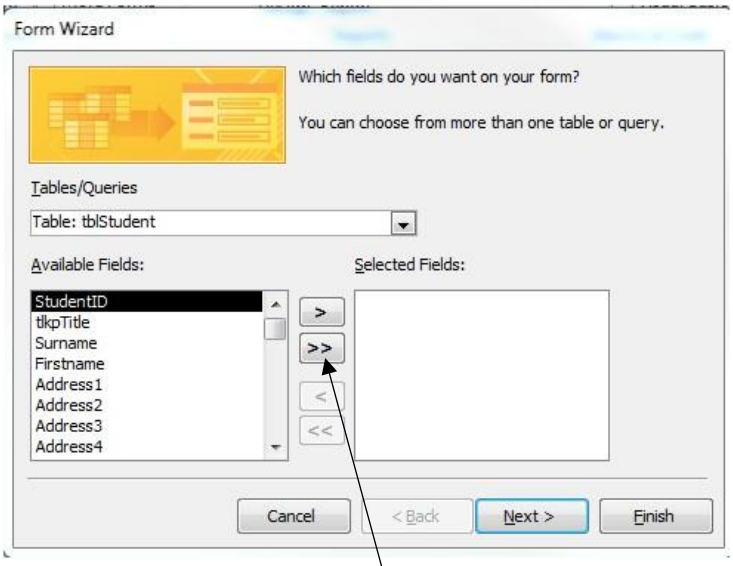
1. In the database window select **Create > Form Wizard**



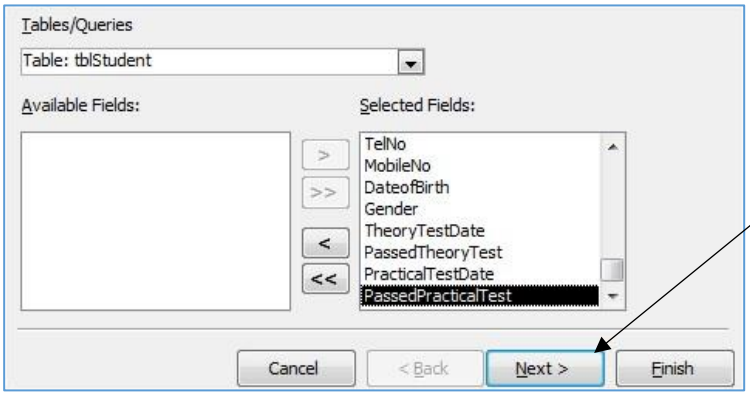
2. Select **tblStudent** from the dropdown, then click **Next**



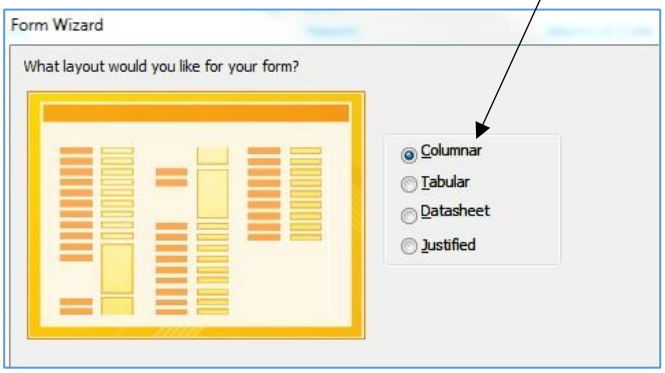
- In the Form Wizard window you can either **select single fields by selecting the single arrow**
- Or **all** the fields by selecting the **double arrow**



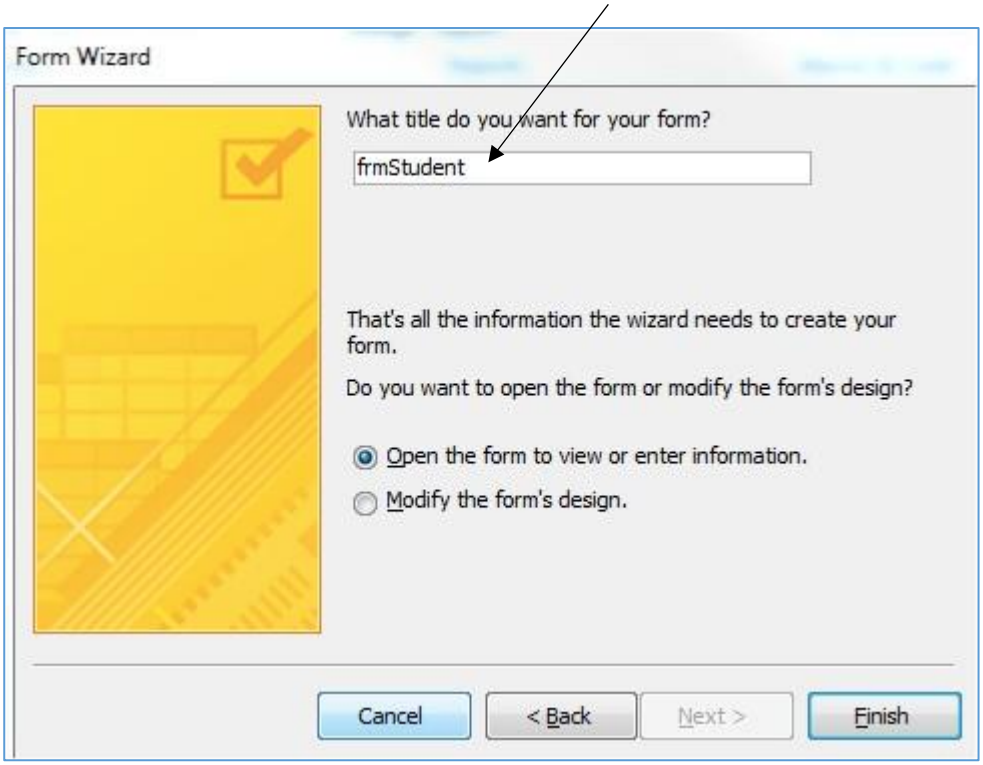
3. For the student form, please select **all** the available fields and then click **next**



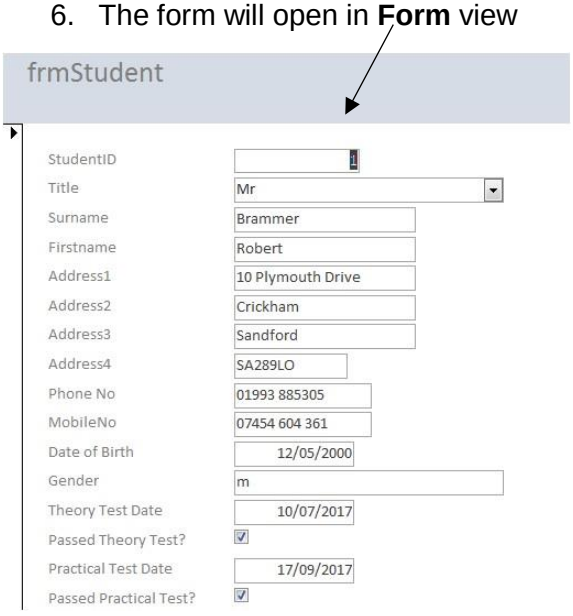
4. From the next window select **Columnar** (columnar layout will show you one record at a time) and select **Next**



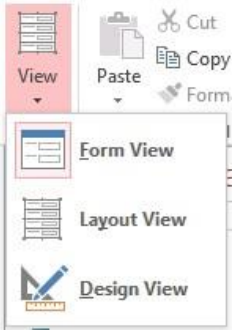
5. In this window alter the title of the form so it matches our naming convention **frmStudent**



6. The form will open in **Form** view



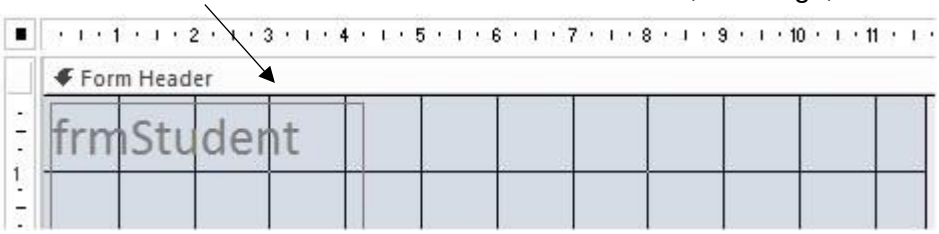
7. You'll be working in different "views" as you develop your forms. Find the **View** button and have a look at **Layout view** and **Design view**



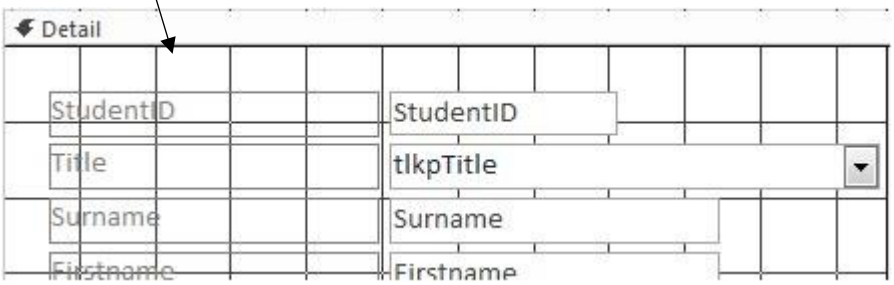
4.1 Working in Form Design View

1. **Close frmStudent** and in the Database Window **right click** on **frmStudent** and select **Copy** then **Paste**. In the Paste As box name it "**frmStudentCopy**".
2. **Open frmStudentCopy** in design view and find all these elements:

3. **Form Header** section - this area can contain text, headings, titles and graphics

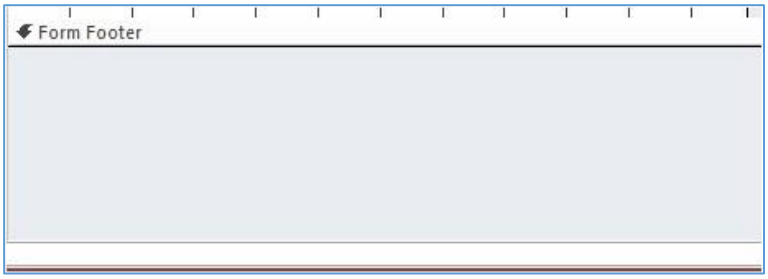


4. **Detail section** – this contains the controls that display the data from your tables or queries

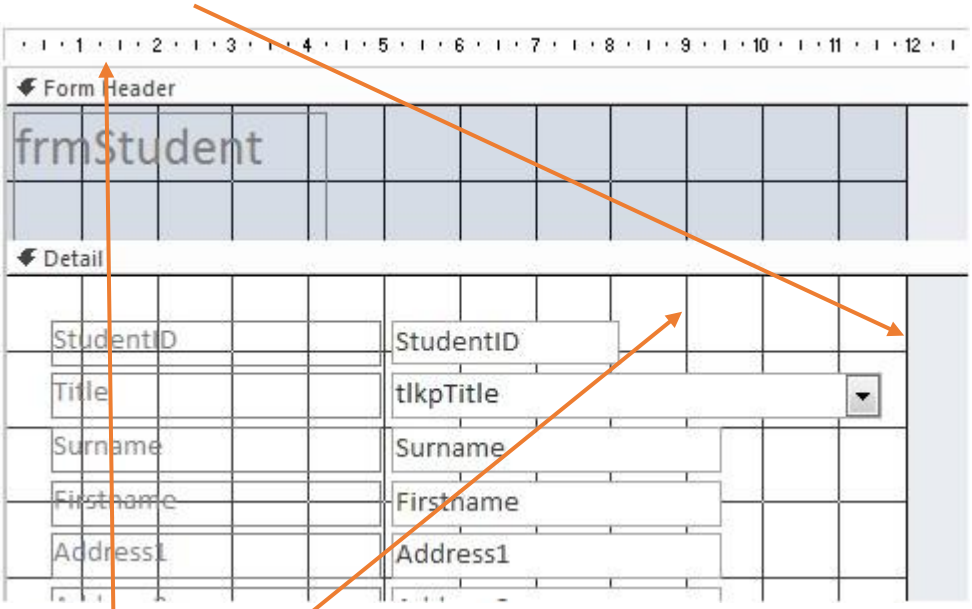


5. **A number of Controls** each made up of a **Label** containing the **field name** and **a text box** which will contain **the data in Form view**

6. **A form footer** section which can be used in the same way as the Header



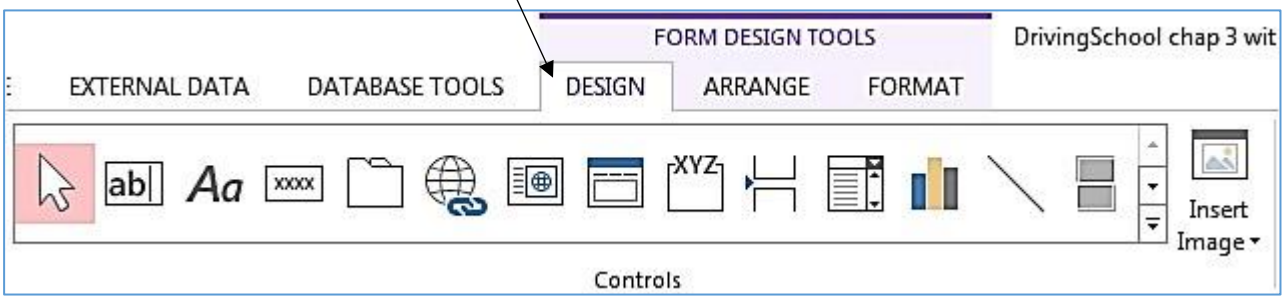
7. **Right margin** can be dragged wider using the mouse



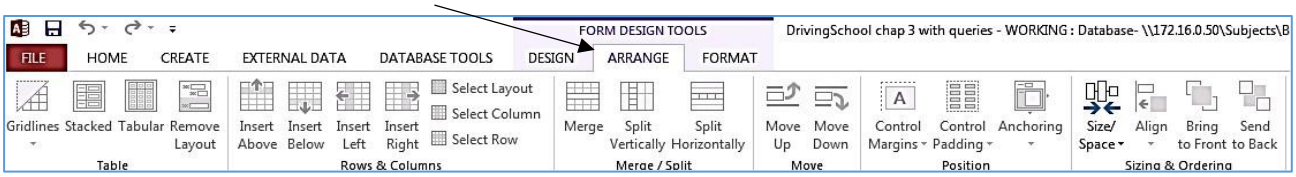
8. **Ruler** and **Grid** help you with the layout of your form.

9. The **form design tools** menu (you'll find this at the top of the screen) has three tabs to help you **Design**, **Arrange** and **Format** your forms

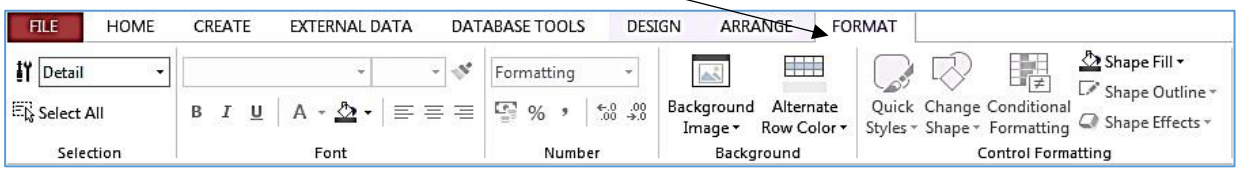
a. **Design tab** enables you to add text, lines, shapes, controls, buttons, images and other features



b. **Arrange tab** enables you to adjust the layout of your controls to ensure they are **aligned correctly with consistent sizes and even spacing**



c. **Format tab** helps you to add formatting such as font colour, alignment (left, right and centre) etc

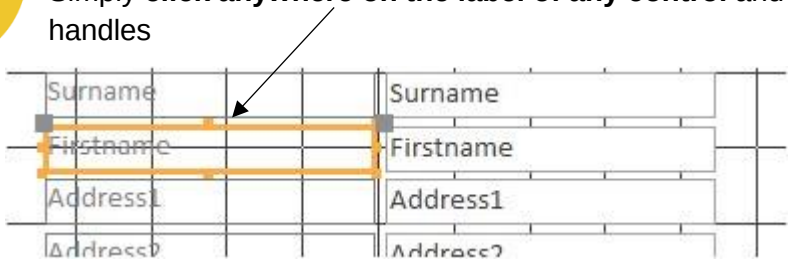


4.1.1 Working with controls

1. The **Detail section** is made up of controls which display the data from your tables or queries
2. The controls are made up of text boxes, check boxes an attached labels
3. Its worth practising all the following steps on the **frmStudentCopy** and practicing all the following steps until you feel confident
4. Open **frmStudentCopy** in **Design** view

4.1.2Selecting controls

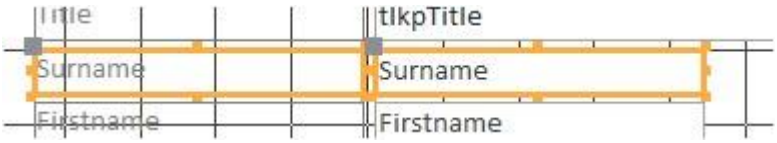
5. To resize, delete, copy of change the properties of a control you first select it. Simply **click anywhere on the label of any control** and it will be highlighted with sizing handles



6. Move your mouse to the edge of the control until it changes to a four headed arrow, you can now move the control. Also try resizing the control

4.1.3 Selecting the label and the textbox.

7. Click on the label of any control, then hold the shift (or control) key down and select the textbox. Both are now highlighted, see what happens when you resize now



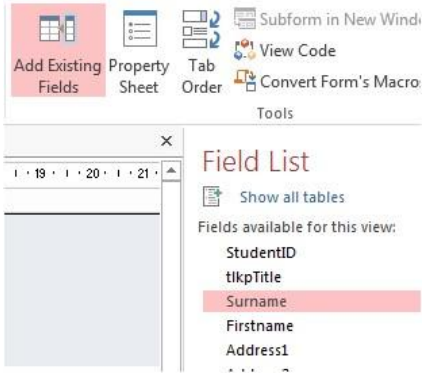
8. To select more than one control, either drag a rectangle around the controls you with to select or hold down the shift while selecting controls

4.1.4 Deleting controls

9. To delete a control, simply highlight and press delete on the keyboard

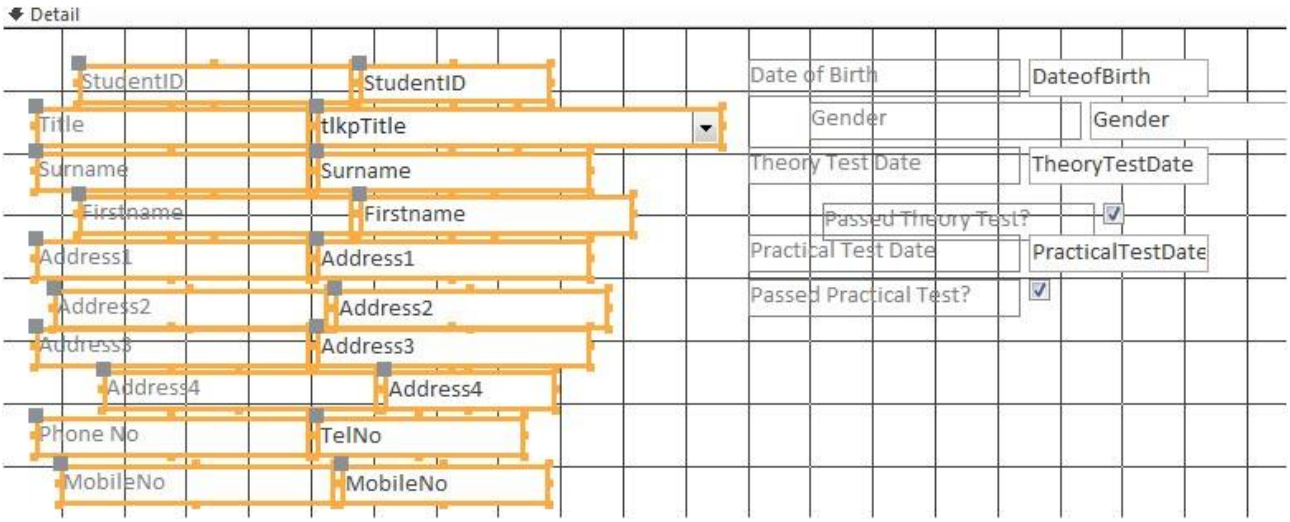
4.1.5 Adding a control

10. If you want to add a control for a field go to Form Design Tools > design tab and find **the Add Existing Fields icon**. Click on it, select the field you want and drag it on the form



4.1.6 Aligning controls

11. From the database window, open **frmAlignmentPractice**. This form is a bit messed up and will give you a chance to practice aligning controls
12. Drag a rectangle around the controls on the left of your form



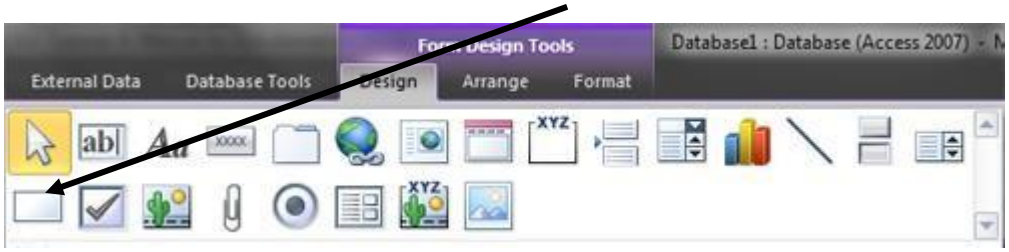
13. In **Form Design Tools > Arrange tab** find the **align tab** and select **left**.
14. "play" with the options in **Align** and **Size/Space** to tidy up the form.
15. You are aiming for a nicely aligned form with consistent spacing between the controls
16. Go to **Form view** to check how it looks
17. Save when you have finished

4.2 Fonts, colours and special effects

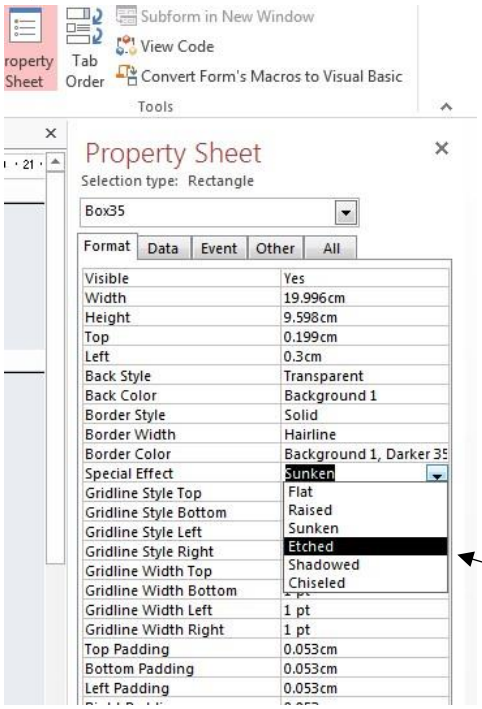
18. Open **FrmStudentCopy** in Design view
19. Open the Form Design Tools tool bar on the **Format tab.**

20. Click into the Detail area of your form and select an appropriate **fill colour**

21. Highlight the controls (drag a rectangle around them) to change the **font colour**
22. From the **Design** tab select the **Rectangle**



23. Draw a rectangle around the controls and then click on the rectangle
24. Select the **Property sheet icon** from the **Design** tab and the **property sheet will appear on the right of your screen**



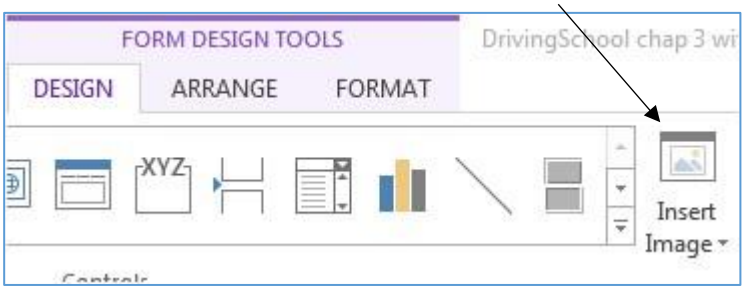
25. (with the rectangle highlighted) In the Format tab of the Property Sheet, go down to **Special Effect and select "Etched"** from the drop down list.
26. Check out the effect by saving your form and viewing it in **Form View**.
27. Try the other **Special effects** to see what can be done

4.2.1 Adding graphics to the form

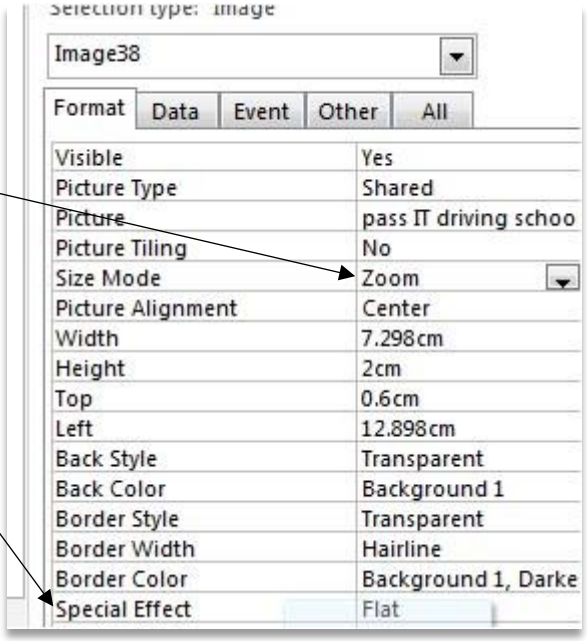
Do This

Graphics can easily be added to your form.

1. Go to the Study Directory > **unit** 2 > **databases** and download the **image** called "**pass IT driving school logo**" and move it into your unit 2 folder on your user area
2. In the Design View of your **frmStudentCopy** click into **the Form Header** area and change the label to something more user friendly such as "**Student Details**"
3. From the **Design** tab select "**insert image**" and then browse for the logo



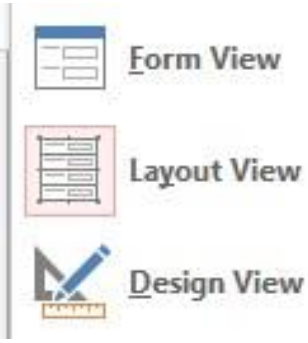
4. In the **form header area**, draw a rectangle where you want the image to be placed and it will appear
5. **Click on the image** and then go to the **Property Sheet** (if its not showing click on the Property Sheet icon in the design tab).
6. In the **Format** tab see what happens when you change the **size mode from "Zoom"** to "**Stretch**"
7. You can change the **special effect** to a different mode e.g. raised or sunken Save
8. Check out the image in Form View



4.2.2 Layout view

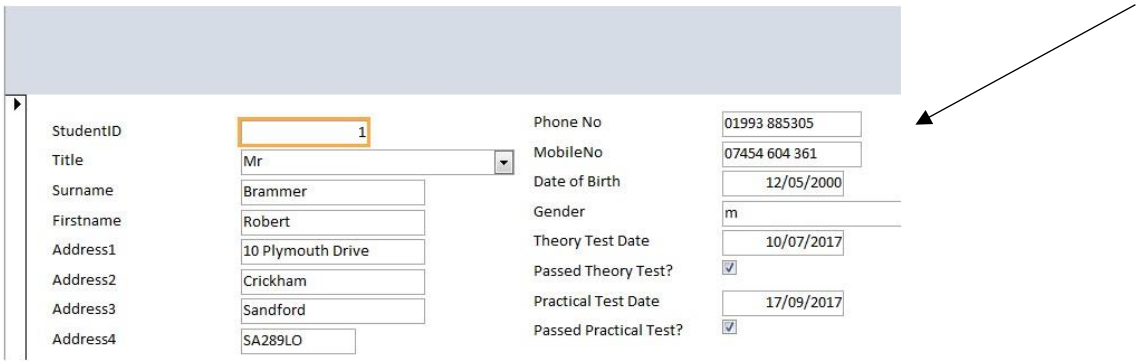
1. So far you've been working in Design view, **Layout view can also be used to make design changes to your forms.**

2. Have a "play" with **frmStudentCopy** in Layout view and see if you can do the same things as Design view. You can work out which view you prefer to work in



4.3 Practice Time

1. Open **frmStudent** and use either Design View or Layout to move the commands from **'Phone No' down to 'Passed Practical Test'** to the right hand side of your form, like this



2. Use Design View or Layout view to create a **well-designed, accessible form that includes**:
   - Good alignment and regular spacing
   - High contrast colour scheme
   - Suitable and accessible fonts
   - Field widths are suitable for the data that is going to be entered
   - Sensible, user friendly Title
   - The Driving school logo
   - Evidence of rectangles or lines with special effects applied
   - A generally well designed, easy to use form

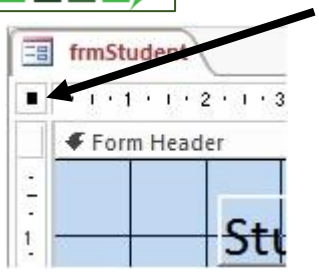
4.4 Practice - Create New Forms

1. Using the Form Wizard, create a **columnar** form from **tblInstructor**, using all the fields. Make sure it is named correctly
2. Using Form Wizard, create a **tabular** form from **tblLessonType** using all the fields. Make sure it is named correctly
3. Use Design or Layout view to ensure they are **well designed, user-friendly forms**

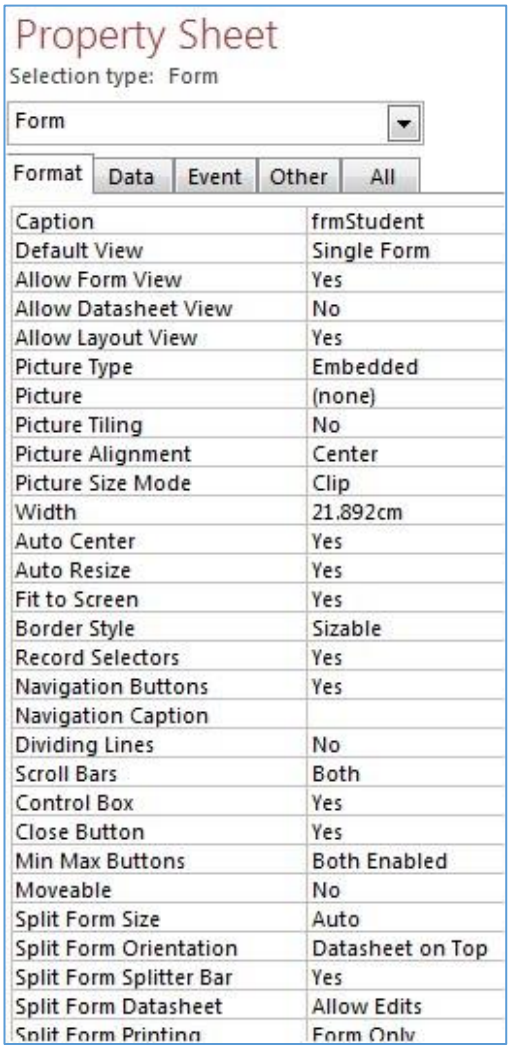
4.5 Setting Form Properties

You can control the behaviour and appearance of your forms by setting the form's properties. In your forms you can alter the features that are currently showing such as Record Selector, the Records navigation Controls, Maximize and
Minimize and Close buttons

4. Open **frmStudent** in Design View and show the Properties Sheet
5. Click on the **Form Selector** at the top left of the form in Design View



6. In the **Properties Sheet Format tab** make the following changes:



   a. Change the **Caption** to Student Details (in Form view you'll notice that the form's tab now shows "Student Details"
   b. **Auto Center** to Yes
   c. **Record Selectors** to No
   d. Change **Scroll bars** to Neither
   e. **Min Max Buttons** to None
7. Your finished form should look more user friendly now

4.5.1 Practice

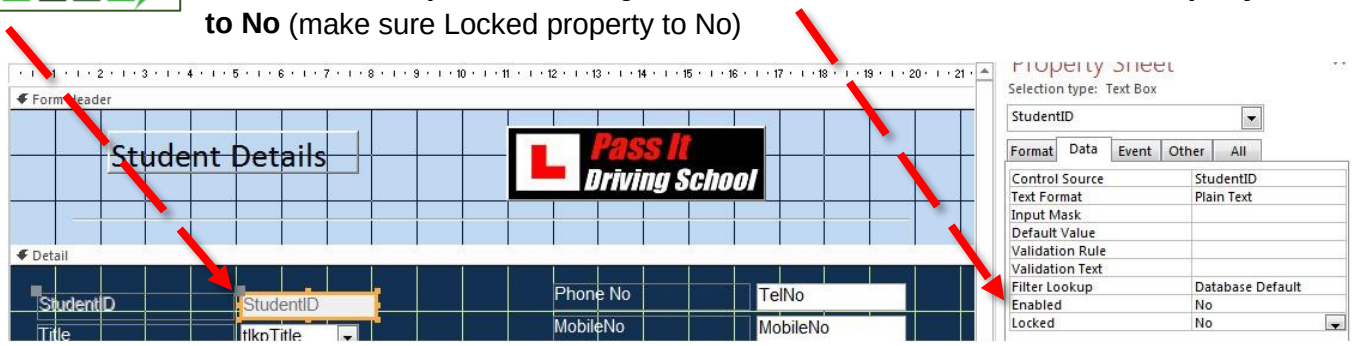
8. Apply these techniques to **frmInstructor**

4.6 Disabling and Dimming Fields

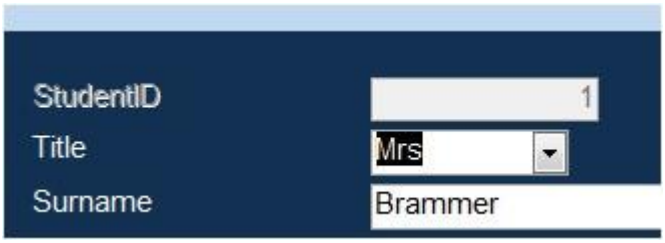
Access provides a number of ways to prevent users from inadvertently changing data on their forms. One way is to **disable and dim** certain fields.

It would be expected that any Primary key that is an Autonumber datatype would be disabled and dimmed so a user doesn't attempt to change it.

1. Open **frmStudent** in **Design** View
2. Select the primary key which is the **StudentID** control
3. In the **Properties Sheet** go to the **Data** tab and set the **Enabled Property to No** (make sure Locked property to No)



4. In Form view you'll see that the field is disabled and dimmed

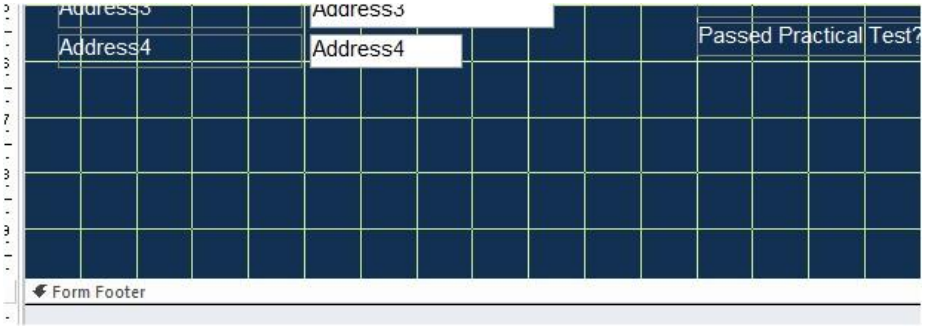


5. Go ahead and do the same for Instructor ID in **frmInstructor**

4.7 Adding Labels

Labels can improve the user-friendliness of a form and makes it clear and more intuitive.

1. Open **frmStudent** in Design view
2. We are going to add buttons to the lower section of the form so you will have to **drag the Form Footer area down to create a little room**



3. From the Form Design Tools select the **Design tab** select the label icon  and draw a label in the bottom left of the Detail area
4. In the label add the following text "Use this form to add and edit student's details. You must enter data where * appears".
    a. Use the design tab to make sure the **font is visible and accessible.**
    b. You can also **centre the text** in the Design tab.
    c. Use the field properties area to add a **special effect** to the label (e.g. raised or embossed)

5. ***Hint***: to get the text to appear on the next line use **shift + enter (**not just enter)

4.7.1 Putting an asterisks next to required fields

6. As part of effective form (interface) design you should indicate which fields the users must complete – i.e. required fields
7. Open frmStudent in Design view and make a label, in the label **type an asterisk and format the font red**. Put the label next to one of the required fields (e.g. Surname)
8. Position the label next to the required field.
9. Copy the label as many times as needed and position by all the required fields.
10. ***Hint***: once you have copied and pasted the labels it is easier to position them using Layout view
11. Make sure you put the asterisks in a consistent place next to the required fields to make sure your interface looks professional

4.7.2 Practice

12. Now apply these skills to **frmInstructor**

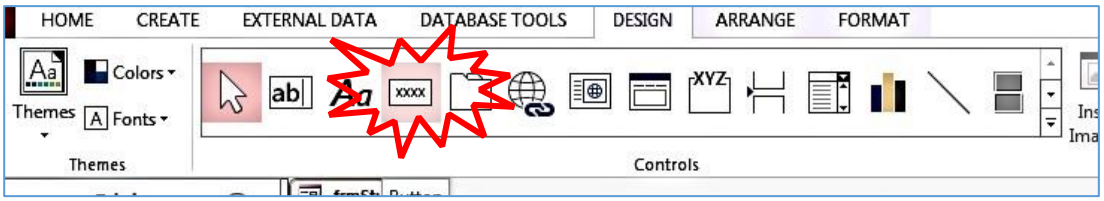
4.8 Adding Command buttons

Access allows you to automate tasks by creating command buttons and placing them on your form

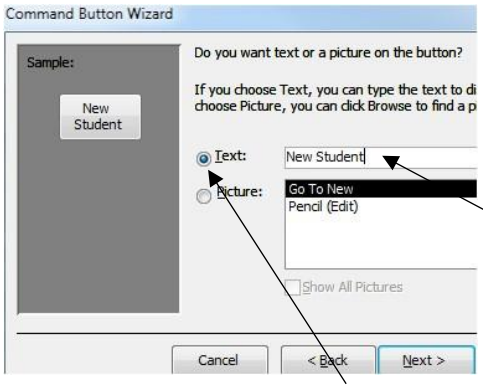
Command buttons can be added to dead with a number of operations including

- Record navigation
- Opening forms and reports
- Printing
- Other commonly used operations

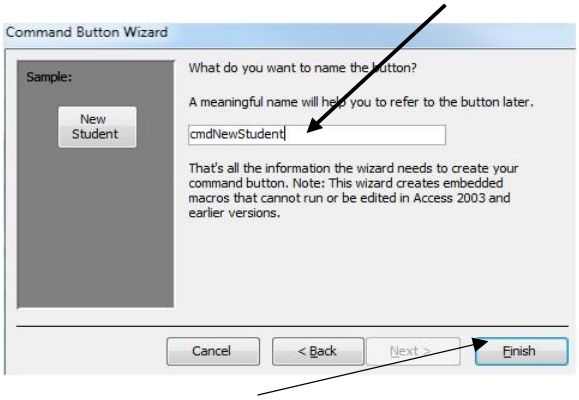
1. Open **frmStudent** in Design view
2. From the Form Design Tools select the **Design** tab
3. Select the **Command Button tool** and draw a button in the bottom area of the detail section (near to the label you created earlier)



4. The Command Button Wizard will appear. From the **categories** list select **Record Operations** and select **Add New Record** and click **Next**



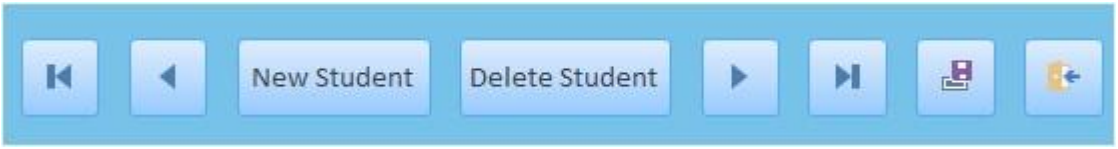
5. On the next screen select **Text** and alter the text to read **New Student** and click **Next**
6. On the next screen type in the name for this command button – you'll use the cmd prefix and use camelcase, like this:



7. Click Finish

8. Add another button from **Record Operations** to **Delete a Record** and label it **Remove Student**. Give is the name **cmdRemoveStudent**
9. Add extra buttons from the Record Navgation category using the actions **Go To First Record, Go To Previous Record, Go To the Next Record and God To Last Record.** For each one use the picture option and name them with sensible names (eg.cmdFirstStudent, cmdNextStudent etc)
10. Add **Save Record** button from the Record Operations category (give a sensible name)
11. Add the **Close Form** button from the Form Operations category (give sensible name) 12.

You're aiming for something like this:



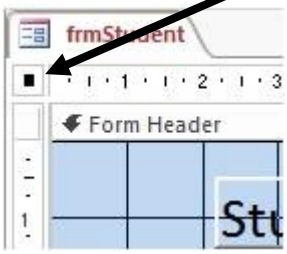
13. **Select all the buttons** and make sure they are all the same height but going to **Arrange tab > Size/space >** Tallest
14. Select all buttons and from the **Arrange tab select Align > Top**
15. Distribute the buttons evenly by again selecting all the buttons and selecting Size / Space > Equal Horizontal
16. "play" with the Align and Size/space options to get a professional looking interface

It is common practice to keep user buttons away from data entry areas. We are going to add a background to give a control panel effect:

17. From the Design tab draw out a **rectangle** big enough to cover the buttons. Select the rectangle and from the **Property Sheet > Format > Special Effect chose Sunken**
18. Draw another **rectangle slightly bigger** that the first and position it around the first rectangle. From the **properties sheet> Format > Special Effect chose Raised**
19. You may wish to change the **colour** of the rectangle (**Properties sheet > Format > Back Colour)** to make it stand out even more. You may need to select **Send to Back** from the Arrange tab if the rectangle hides the buttons

20. When you look at your form in Form View, you'll notice that the navigation buttons still appear at the bottom. These are no longer required because you've added your own buttons.

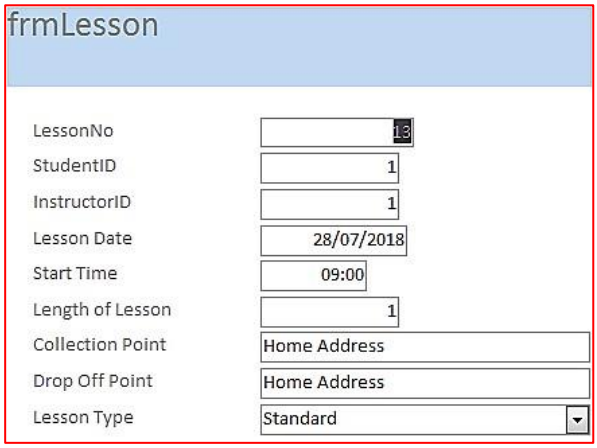
21. In Design view Click on the **Form Selector** and click on the Form Selector (top left)



22. From the **Properties sheet > Format > Navigation Buttons - set to No.** Look back at Form View to see the changes.

4.9 Creating a from to display data from more than one table

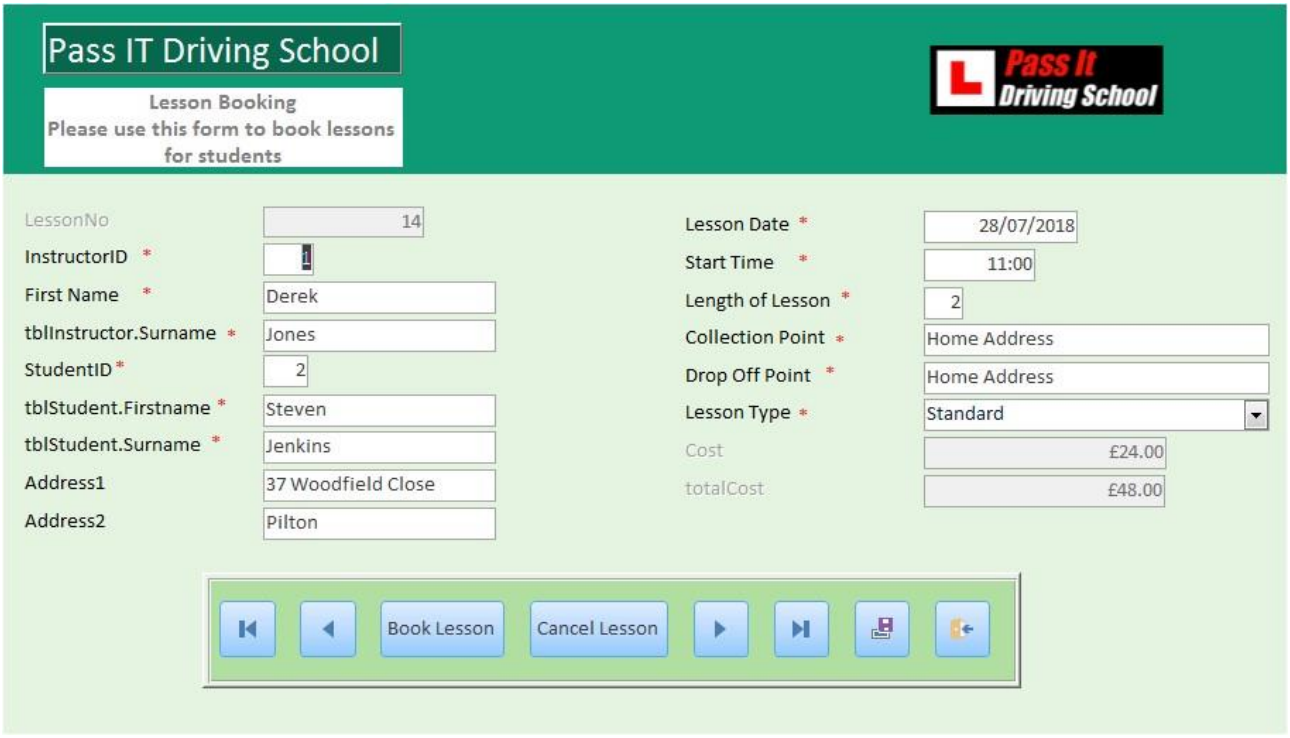
You've used the wizard to create useful forms. You could also have designed a form to book lessons from **tblLesson** like this:



However, this is not a user friendly form because the students would not know their ID number. So to make this user friendly we'd need to see the students name on the form. In this section you are going to **build a form from a query** which will enable us to find a student's name

23. From the database window, open **qryLessonCost** in design view. As you can see if brings in fields from all the tables. Close the query.
24. Select **Create > Form Wizard** and from the drop down list select **qryLessonCost**
25. Create a well designed form with all the skills that you've been practicing (including disabled and dimmed fields, asterisks for required fields, command buttons, helpful instructions etc

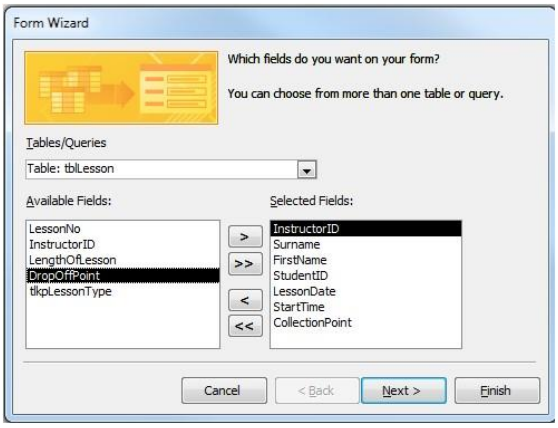
Here is the form as it is being developed:



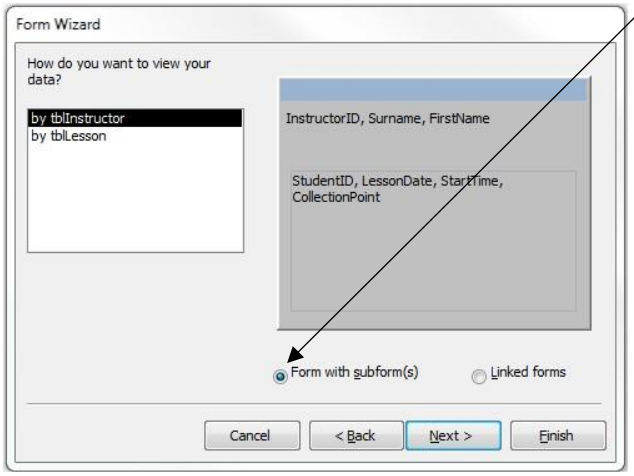
5 Using SubForms

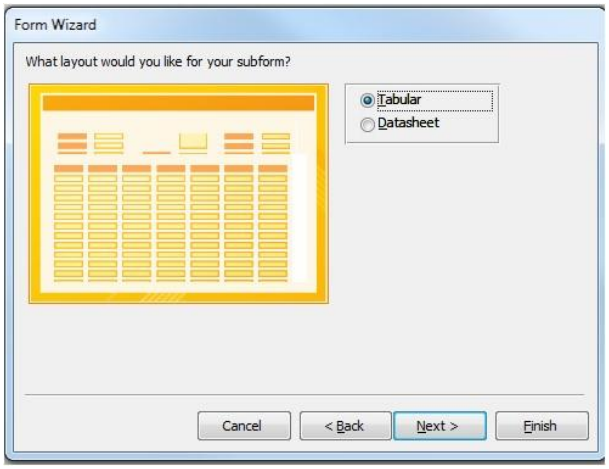
In database systems there will be many instances where it is necessary to see data from related tables on one screen. Using a **SubForm** is one of a number of ways of doing this:

1. Select **Create** > **Form Wizard** and select **tblinstructor** from the down-down.
2. Select this fields only **InstructorID, Surname, FirstName**
3. BEFORE YOU CLICK NEXT… Now select **tblLesson** from the drop-down and add **StudentID, lessonDate, StartTime** and **CollectionPoint** from the available fields

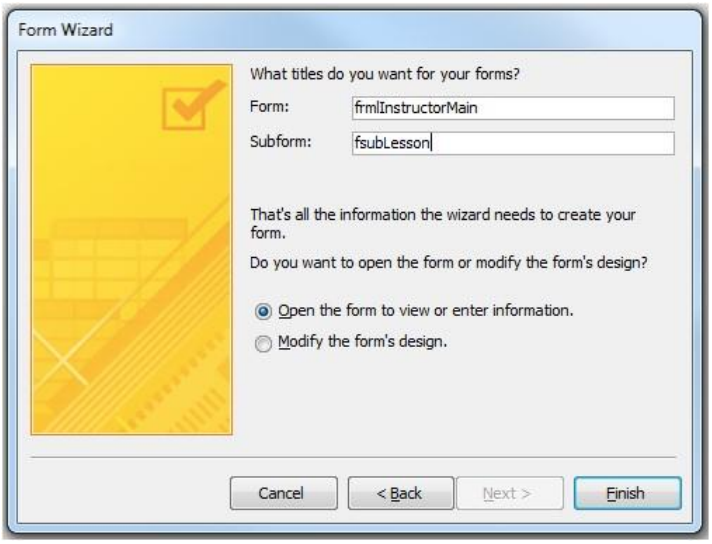


4. Click Next
5. On the next screen select **Form with subform(s)** and click Next

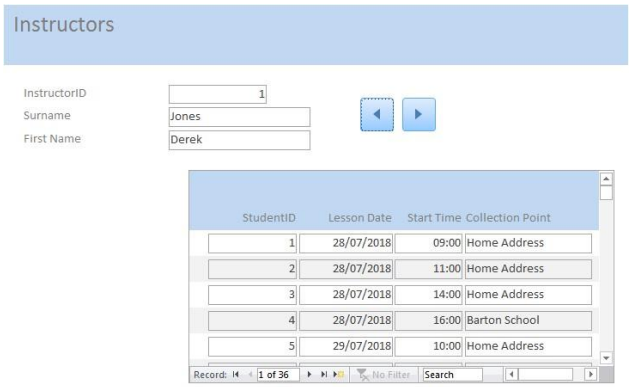




6. Select **Tabular** from the layout options and click **Next**
7. Use these titles **frmInstructorMain** and **fsubLesson**



8. “Play” in design view to improve the interface



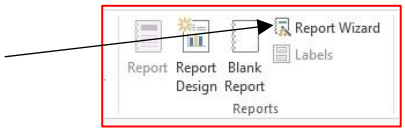
5.1.1 Practice

9. Create a form with a sub from – Firstly select **tblStudent** from the Form Wizard and select **StudentID, Title, Surname, Firstname, Address1, Address2, Address3, Adress4**.
10. Before you click next select **tblLesson** and select **Lesson no, LessonDate, Start time, CollectionPoint and LessonType.**
11. Select 'Form and Sub-form' and choose the tabular display
12. Name the form **frmStudentMain** and name the subform appropriately.
13. Use Design and layout view to improve the interface.

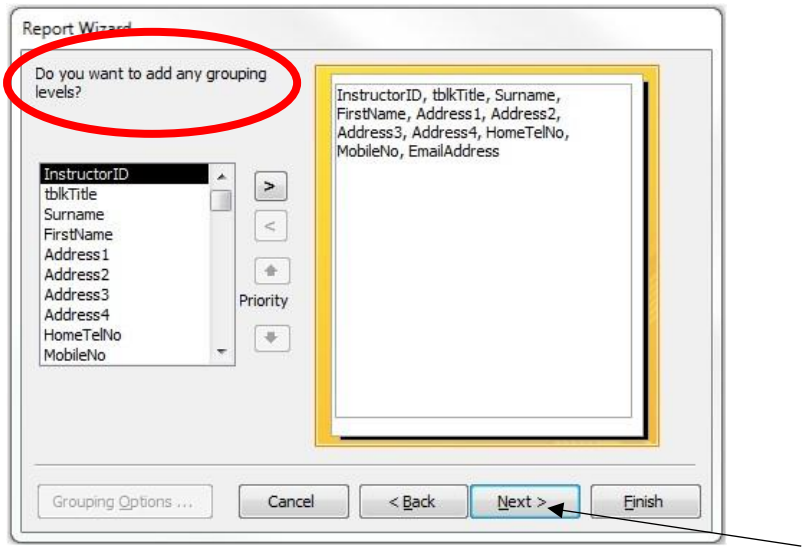
6 Setting up Reports

In this section you will learn how to set up reports to output information. A report is a way of presenting data on screen or in printed format. Reports can be based on either tables or queries.

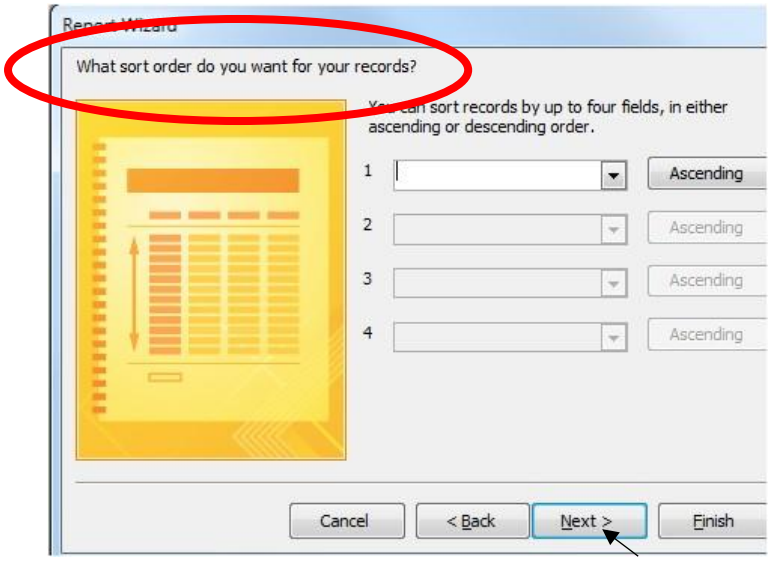
1. Setting up a report to display instructor contact details. Go to **Create > Report Wizard** and select **tblInstructor** from the drop-down list.



2. Select all the fields and click Next



3. No **grouping** is required for this report so just select **Next**



4. No **sorting** is needed so just click **Next**
5. This is going to be a **tabular** report and will need to be in **Landscape**, select the correct options and click Next
6. Finally name the report **rptInstructorDetails** and finish

7. The report will appear in **Print Preview** and you should see some things that need to be done to improve this report:

Instructor ID has been truncated

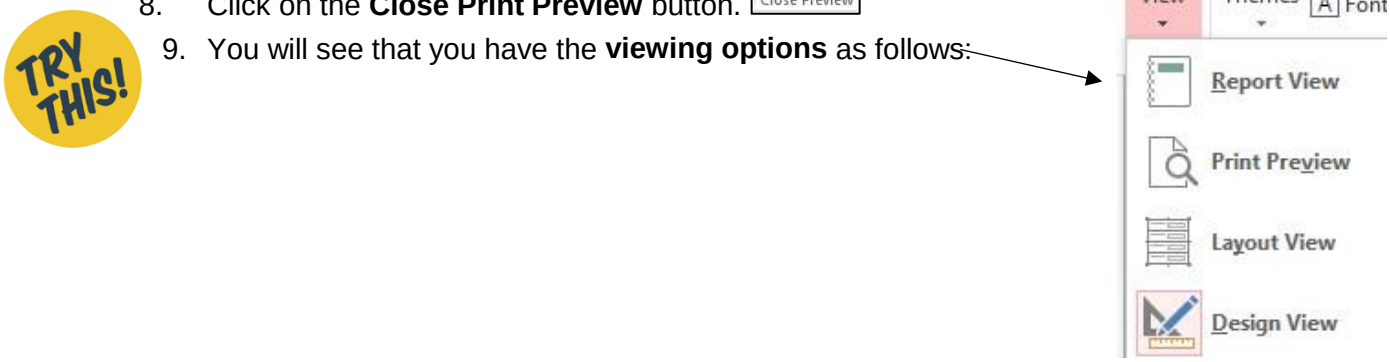
Title is not appropriate

rptInstructorDetails

structorID	Title	Surname	First Name	Address1	Address2	Address3	Post Code	Mobile No	Email Address
1	Mr	Jones	Derek	45 Grange Road	Pilton	Sandford	SA49 5FG	07839 483	derekjones@g
2	Mrs	Manda	Priya	13 Abby Close	Blakeway	Sandford	SA49 5JJ	07738 298	pmanda@hot
3	Miss	Wonton	Liz	5 Sunhill Road	Pilton	Sandford	SA44 4ED	07736 273	LizzyW@ipc.co
4	Miss	Choudhury	Nuha	12a High Street	Blakeway	Sandford	SA44 5ED	07903 823	Nuha@gmai.co

Spacing between fields, field lengths and alignment could be generally improved

Mobile number and email address have also been truncated



8. Click on the **Close Print Preview** button.
9. You will see that you have the **viewing options** as follows:

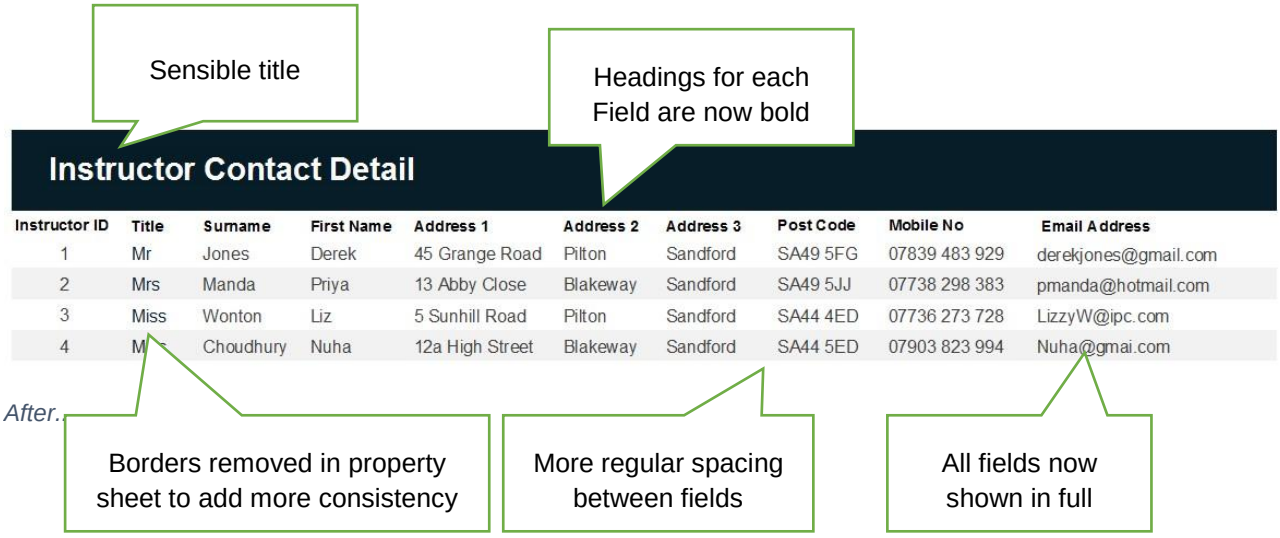
6.1 Customising a report

10. Open **rptInstructorDetails** in Design view. In the Report header area edit the report header to read"Instructor Contact Details"
11. Click on the Report Header bar and go to the **Properties Sheet** and change **the Back Colour** to one of your choice. Remember **Accessibility** and make sure the font colour is high contrast.
12. I'm going to use a combination of **Design View** and **Layout View** to make this report more presentable – see the before and after screenshots below:

Instructor Contact Details

InstructorID	Title	Surname	First Name	Address1	Address2	Address3	Post Code	Mobile No	Email Address
1	Mr	Jones	Derek	45 Grange Road	Pilton	Sandford	SA49 5FG	07839 483 9	derekjones@g
2	Mrs	Manda	Priya	13 Abby Close	Blakeway	Sandford	SA49 5JJ	07738 298 3	pmanda@hotn
3	Miss	Wonton	Liz	5 Sunhill Road	Pilton	Sandford	SA44 4ED	07736 273 7	LizzyW@ipc.co
4	Miss	Choudhury	Nuha	12a High Street	Blakeway	Sandford	SA44 5ED	07903 823 9	Nuha@gmai.cc

Before...



After...

Borders removed in property sheet to add more consistency

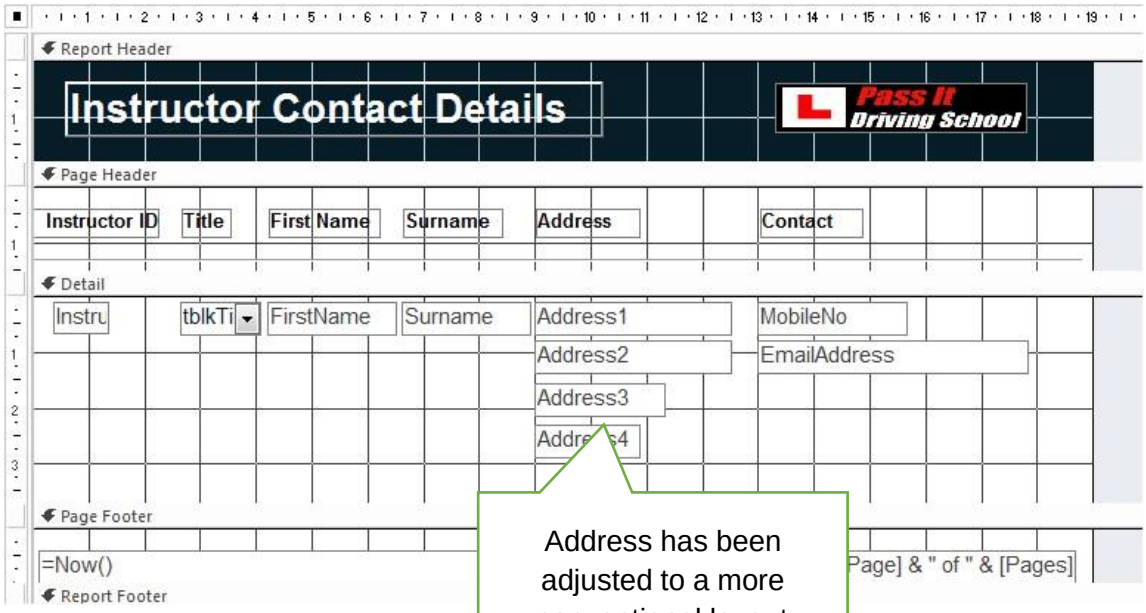
More regular spacing between fields

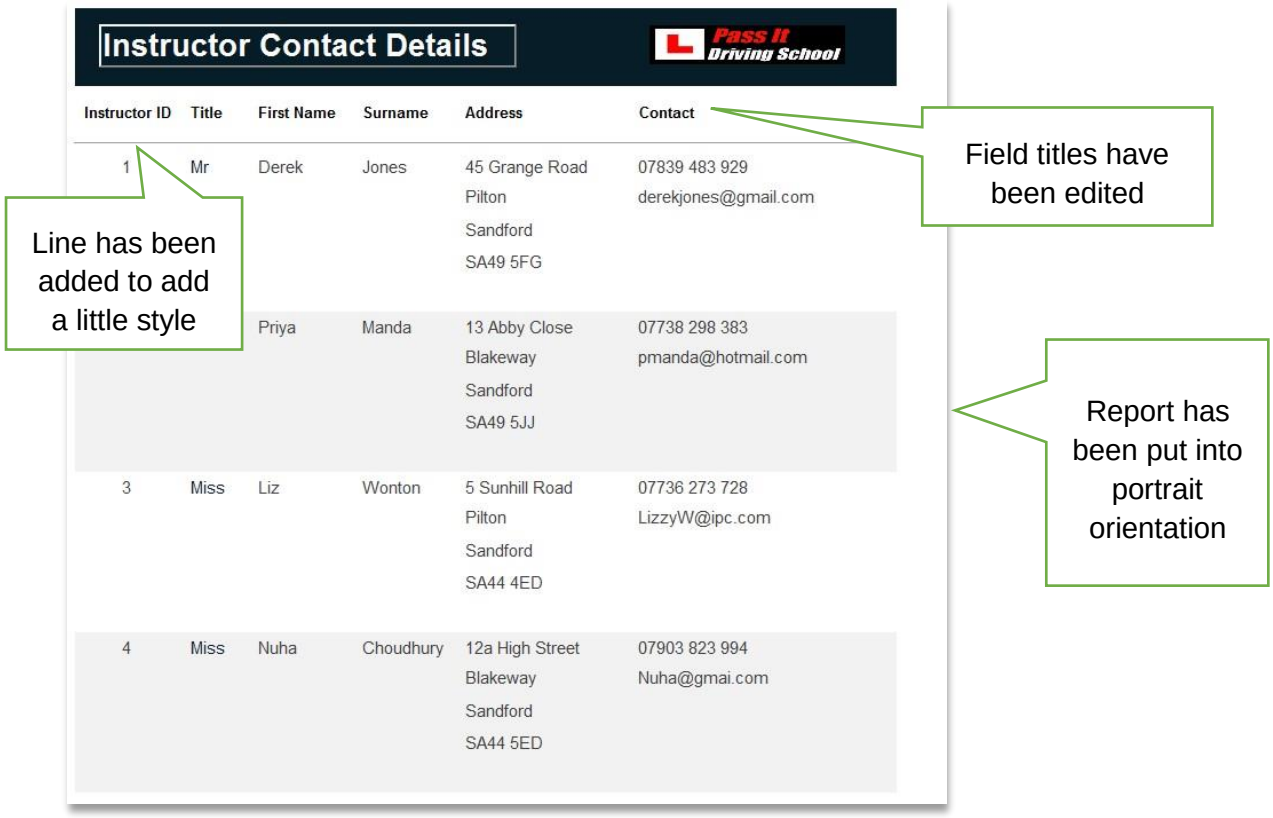
All fields now shown in full

13. Use all the **tools** in **design view** and layout view to improve your report as shown above

6.1.1 Professional looking reports

14. Now open your **rptInstructorDetails** in Design view again and continue to re-design and further improve this report, here are some ideas:



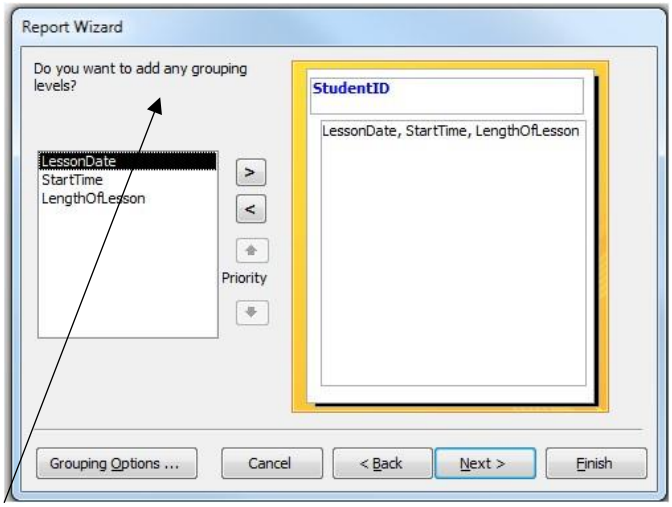


15. Save your report

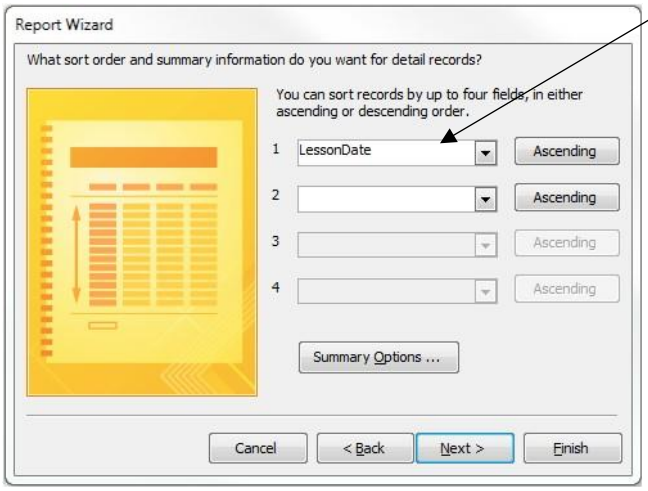
6.1.2 Setting up a report to display details of student lessons

Do This

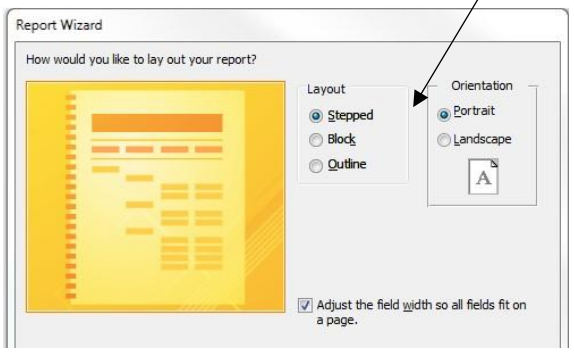
16. Go to Create > Report Wizard and select **qryStudentLesson** from the drop-down list - Select all the fields and click Next



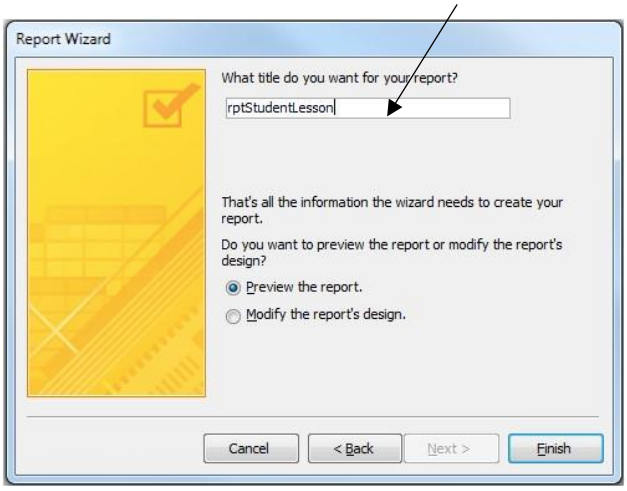
17. In the **Grouping** window, you'll see that Access has already chosen to group this report by StudentID - click Next
18. In sorting window you are going to choose **LessonDate** as the field that will **sort** this report in **Ascending** order and click **Next**



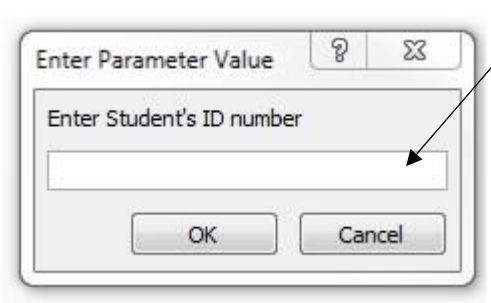
19. This report is going to be **Stepped** and laid out in **Portrait**



20. Name this report **rptStudentLesson** and click **Finish**



21. Because you've based this report on a **parameter query**, you'll be **prompted** to enter a student's ID number**. Enter Student ID 1.**



22. You'll see the report displaying student 1's lesson dates in ascending order

rptStudentLesson

StudentID	Lesson Date	Start Time	Length of Lesson
1			
	28/07/2018	09:00	1
	30/07/2018	12:00	1
	04/08/2018	09:00	1

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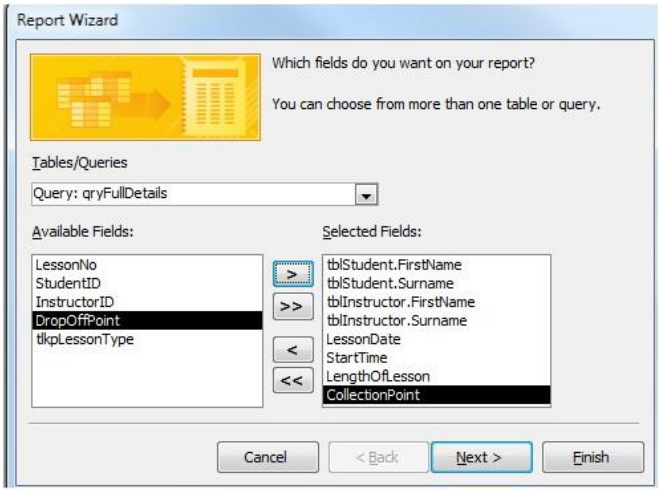
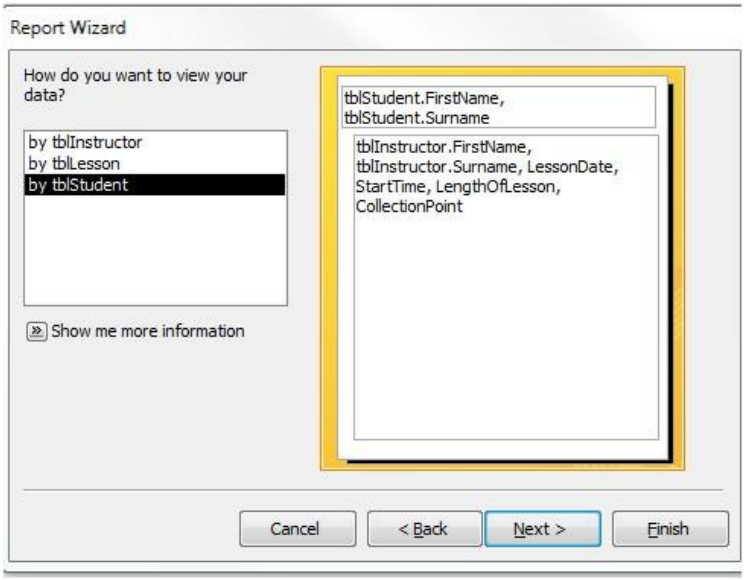
23. This report would, of course, need to be tidied up

6.1.3 Report - Student Lessons

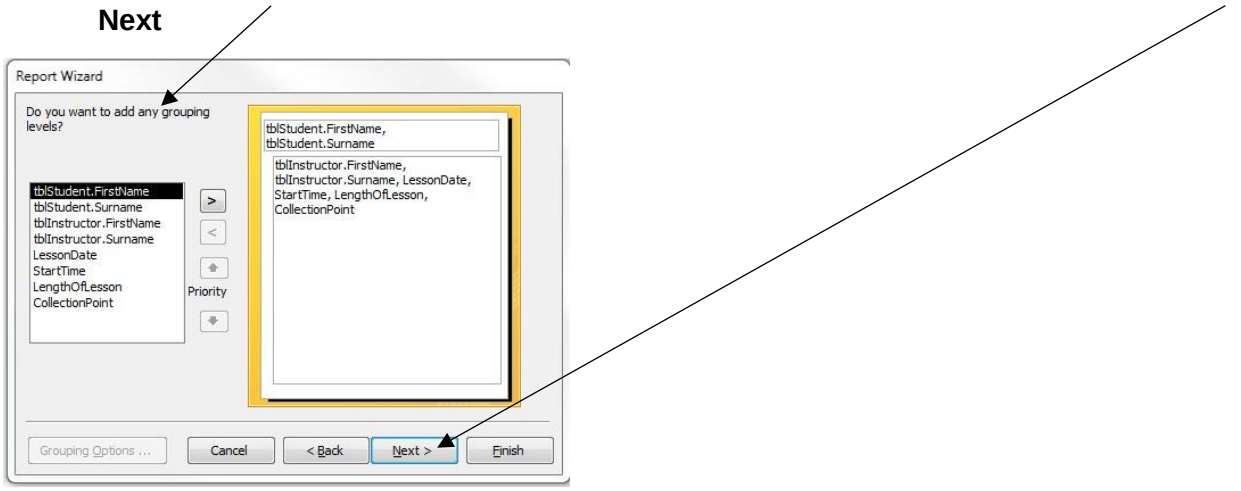
24. You are going to set up a report to display details of all student lessons.
25. Create > Report Wizard > Select **qryFullDetails** from the drop down
26. Select the following fields **tblStudent.FirstName, tblStudent.Surname, tblInstructor.FirstName, tblInstructor.Surname, LessonDate, StartTime, LengthOfLesson, CollectionPoint and** click Next



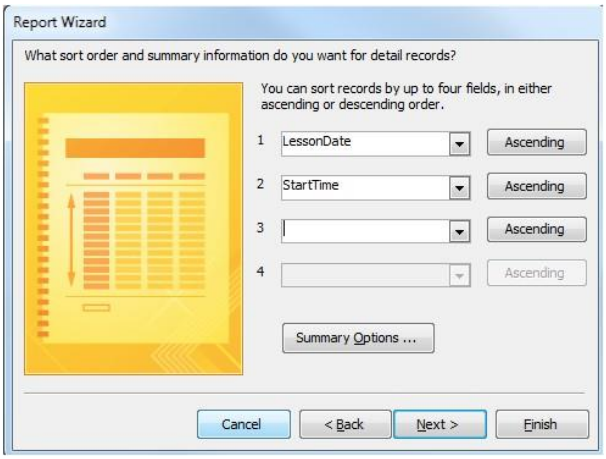
27. The next window asks how you want to view your data. This report is going to show details of students' lesson so select **tblStudent** and click **Next**



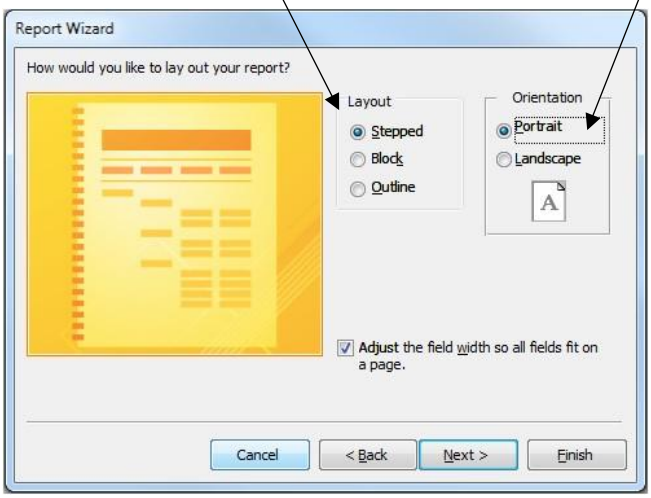
28. From the **Grouping** window Access has already added your grouping levels, so just click **Next**



29. Sort by **LessonDate** and **StartTime** and click Next

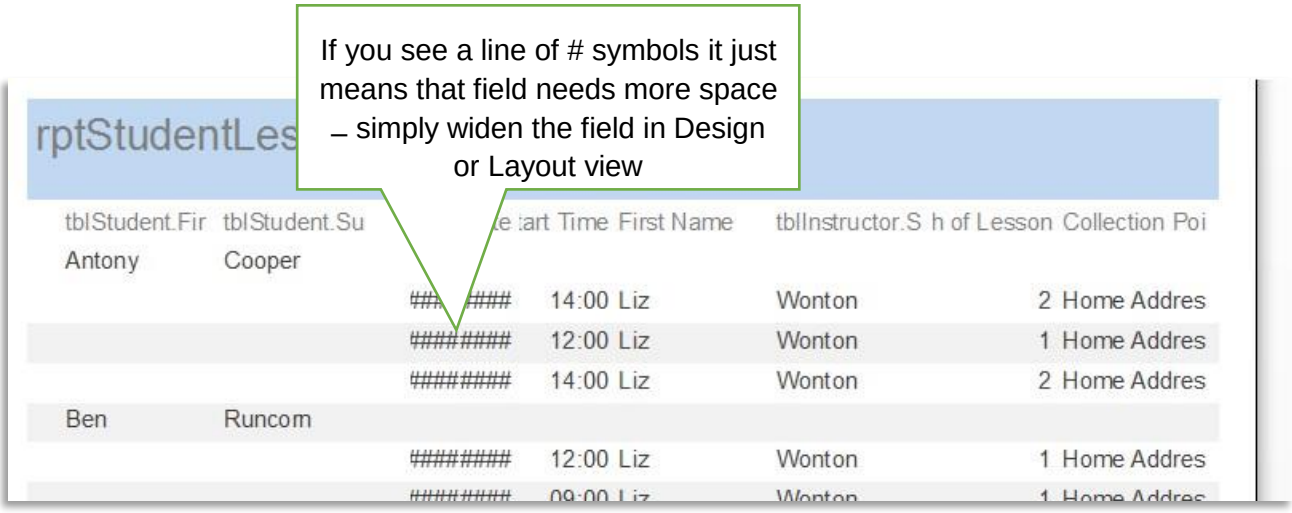


30. Select a Stepped report in Portrait orientation



31. Name it **rptStudentLessonDetails**

32. The report will need improving



33. Edit the report in **Layout** view and **Design** view until it looks more like this:

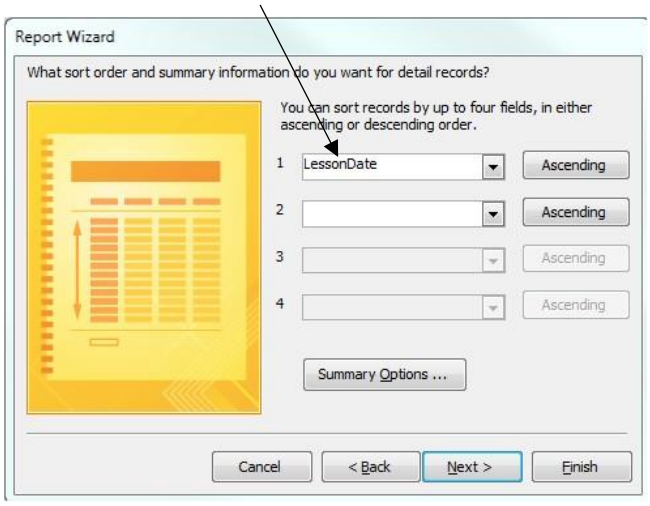
Student Lesson Details

Student Name		Lesson Date	Start Time	Instructor Name		Length of Lesson	Collection Point
Antony	Cooper						
		28/07/2018	14:00	Liz	Wonton	2	Home Address
		30/07/2018	12:00	Liz	Wonton	1	Home Address
		05/08/2018	14:00	Liz	Wonton	2	Home Address
Ben	Runcorn						
		31/07/2018	12:00	Liz	Wonton	1	Home Address
		04/08/2018	09:00	Liz	Wonton	1	Home Address
		07/08/2018	12:00	Liz	Wonton	1	Home Address
Carly	Jevons						
		30/07/2018	18:00	Priya	Manda	1	Home Address
		07/08/2018	11:00	Priya	Manda	2	Home Address

7 Calculations in a report

7.1 Sum Function

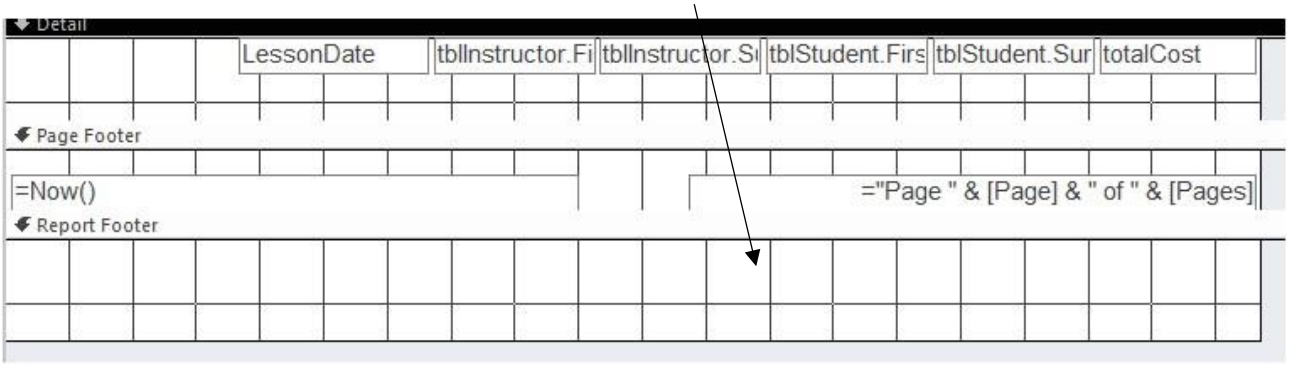
1. You are going to set up reports that contain calculated fields
2. Create > Report Wizard and select **qryLessonCost**.
3. Select the following fields **InstructorID, tblInstructor.FirstName, tblInstructor_Surname, tblStudent.Firstname, tblStudent.Surname, LessonDate and TotalCost** click Next
4. **Leave** the **grouping options** as Access has already set up, click **Next** 5. Sort By **LessonDate** click Next



6. Leave the report as a Stepped layout in Portrait
7. Name it **rptIncome** and click **Finish**

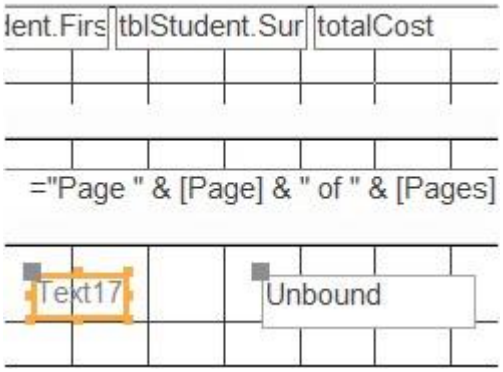
Open the report in Design view, you are now going to create a calculated field to show the grand total of all the Instructor's lessons

8. In Design view make the **Report Footer a little deeper**

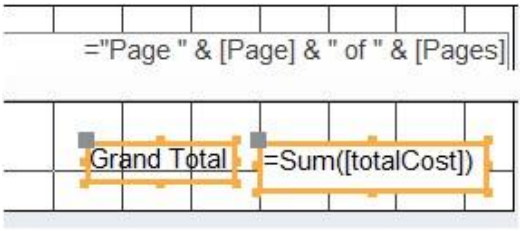


9. From the Design tab select the **Text Box** icon 

10. Draw a textbox in the Report Footer, in line with the total Cost field



11. Edit the label to read "**Grand Total**"
12. In the control box use the **SUM** function to calculate the grand total of the totalCost field by typing =**SUM(totalCost) :**

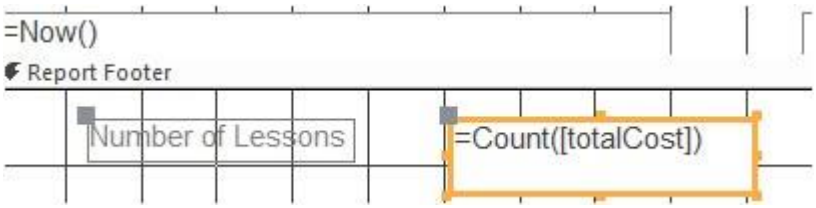


13. Check Report View and you'll see the grand total!

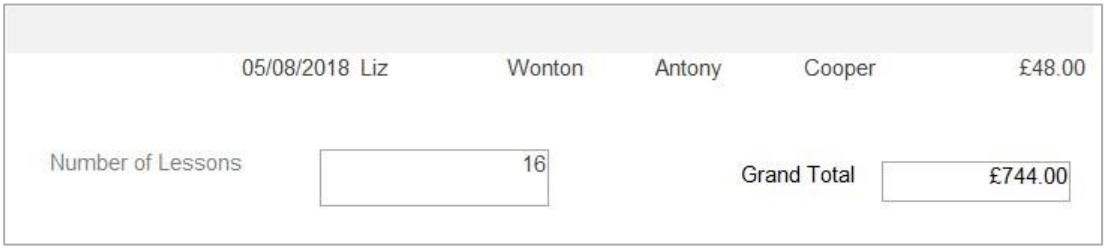
14. Go back to Design view and **click into the control where the SUM function** and open the **Properties Sheet > Format** > change to **Currency**
15. Have a look in Report view

7.2 Count Function

16. You are now going to create a calculated field to work out how many lessons are in the report, for this you are going to use the COUNT function
17. Draw another textbook in the Report folder of **rptIncome**
18. In the label type "**number of lessons**" and in the control type **=COUNT(TotalCost)**



19. Look at report view and you'll see that the number of lessons in the report have been counted

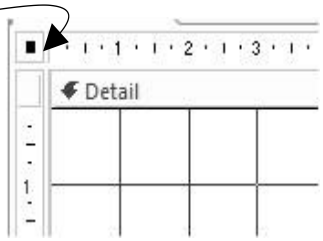


20. Save your report

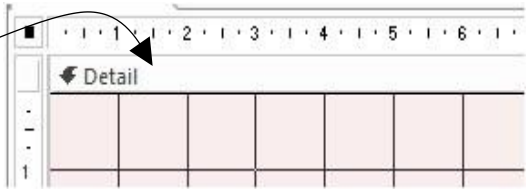
8 Creating a main menu form for your database

1. As part of creating a user interface, you'll need to set up a menu for the users to access forms, queries and reports easily.
2. **Create > Form Design**
3. You are going to be using the Design tab to create a user-friendly menu. Go to **Create >**

Form Design Save the form as **frmMainMenu**



4. Click on the **Form Selector** and then open the **Property Sheet** and:
    a. Add a Caption "Main Menu" (this will appear in the tab in Form view)
    b. Remove Record Selectors
    c. Remove Navigation Buttons
    d. Remove Scroll Bars
        i. Explore the other properties to improve your form

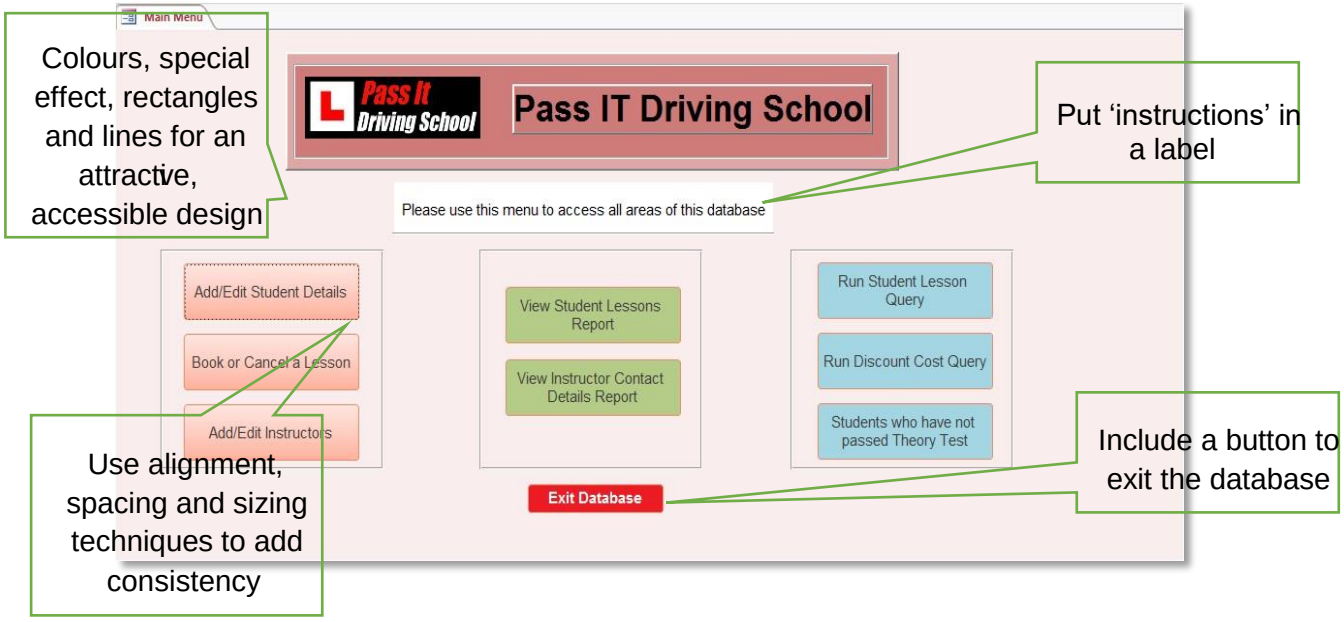


5. Click in the **Detail bar** and from the Property Sheet change **the Back Colour** to an appropriate one
6. Use all the techniques you have learned to create an attractive, easy to use form that displays buttons to open
    a. frmStudent
    b. frmLessonsBooking
    c. frmInstructorMain
    d. qryStudentLesson
    e. qryNotPassTheory
    f. qryDiscountCost
    g. rptStudentLessonDetails
    h. rptInstructorDetails

Create **buttons** from the **Design tab** and find out how to create buttons to open forms and report and to run queries.

Add **sensible labels** which are user **f**riendly.

Use **correct naming conventions** for each button (start with cmd)



8.1.1 Return to main menu button

7. Open any of the forms that are accessed by your menu form.
8. Add another button > Form Operations > Open form > *select your main menu form* > Add text such as “Return to main menu” > and a sensible name