

Session (01.01)

Building Database using Microsoft Access

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Introduction

- database is a computer program for storing , and browsing information in an easily retrievable form
- It can store store text, numbers, dates, hyperlinks, pictures and sounds .
- Microsoft Access is a relational database management system (which allows you to link together data stored in more than one table)

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Agenda

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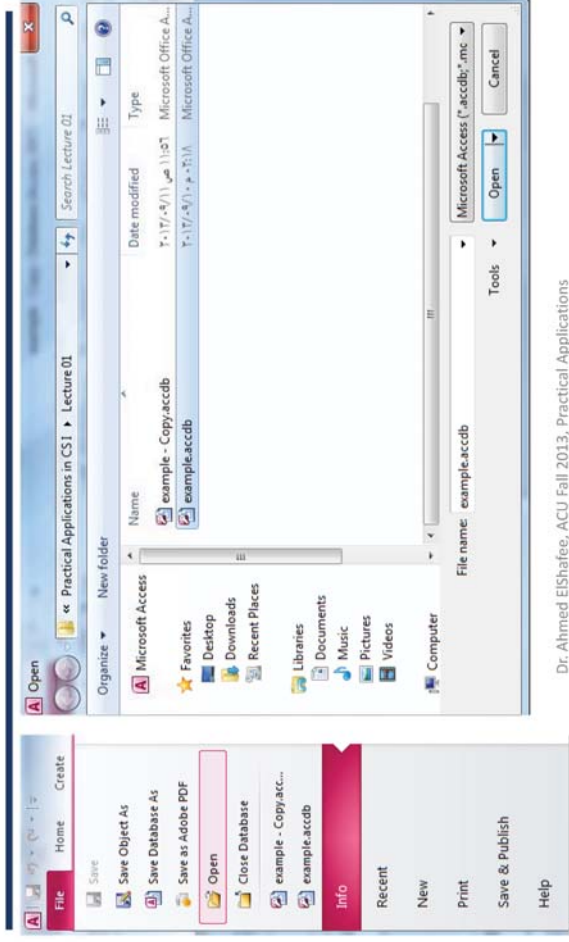
Starting MS ACCESS

- Open the Windows **start** menu and choose **All Programs**
- Select **Microsoft Office** then **Microsoft Office Access 2007 / Microsoft Office Access 2010**



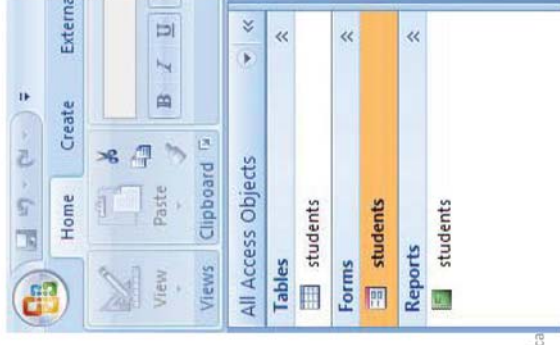
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Opening existing DB



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- In the next screen, the *Navigation Pane* appears on the left. This controls navigation within a particular database.
- A database is made up of several *objects*, grouped into a single file



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Tables

- Click on the **students** table then press **<Enter>** (or double click with the mouse) to open it



→

- The full list is:
- **Tables** - hold the raw data
- **Queries** - extract part of the raw data to produce *dynasets* dynamic sets of data which can change each time the query is run (to reflect any changes to the data in the tables)
- **Forms** - user-friendly layouts to display data on the screen (either in a table or from a query)
- **Reports** - output files, ready for printing
- **Pages** - for creating/editing WWW pages
- **Macros** - lists of commands to perform particular functions
- **Modules** - programs which expert users write in a programming language called Access Basic to perform tailor made functions not generally available

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Record: 14 of 390

11174	Miss	Louise	I	Frank
11233	Mr	Paddy	D	Clarke

Record: 14 of 24 of 390

Design view

Record: 14 of 24 of 390

11174	Miss	Louise	I	Frank
11233	Mr	Paddy	D	Clarke

Record: 14 of 24 of 390

- The <End> key takes you to the last field, the <Home> key to the first. <Page Up> and <Page Down> take you up and down a screen, while <Ctrl Home> and <Ctrl End> take you to the first field of the top record and final field of the last record, respectively.

example: Database (Access 2007) - Microsoft Access

Design view: Fields = Switch panels: F1 = Help.

A field name can be up to 64 characters long, including spaces. Press F1 for help on field names.

Field Name

StudentNO

Data type

Text

Student's Number (given by Univeristy Registrar)

General		Lookup
Field Size	10	
Format		
Input Mask		
Caption	Student Number	
Default Value		
Validation Rule		
Validation Text		
Required	Yes	
Allow Zero Length	Yes	
Indexed	Yes (No Duplicates)	
Unicode Compression	No	
IME Mode	No Control	
IME Sentence Mode	None	
Smart Tags		

Surname

Text

Student's Family Name

General		Lookup
Field Size	25	
Format		
Input Mask		
Caption		
Default Value		
Validation Rule		
Validation Text		
Required	Yes	
Allow Zero Length	No	
Indexed	Yes (Duplicates OK)	
Unicode Compression	Yes	
IME Mode	No Control	
IME Sentence Mode	None	
Smart Tags		

Option

Number

Optional Module

General		Lookup
Field Size	Byte	
Format		
Decimal Places	0	
Input Mask		
Caption		
Default Value		
Validation Rule	Between 1 And 9	
Validation Text	Not a valid entry	
Required	No	
Indexed	No	
Smart Tags		
Text Align	General	

DOB

Date/Time

Student's Date of Birth

General		Lookup
Format	Medium Date	
Input Mask		
Caption	Date of Birth	
Default Value		
Validation Rule		
Validation Text		
Required	No	
Indexed	No	
IME Mode	No Control	
IME Sentence Mode	None	
Smart Tags		
Text Align	General	
Show Date Picker	For dates	

Create new Database

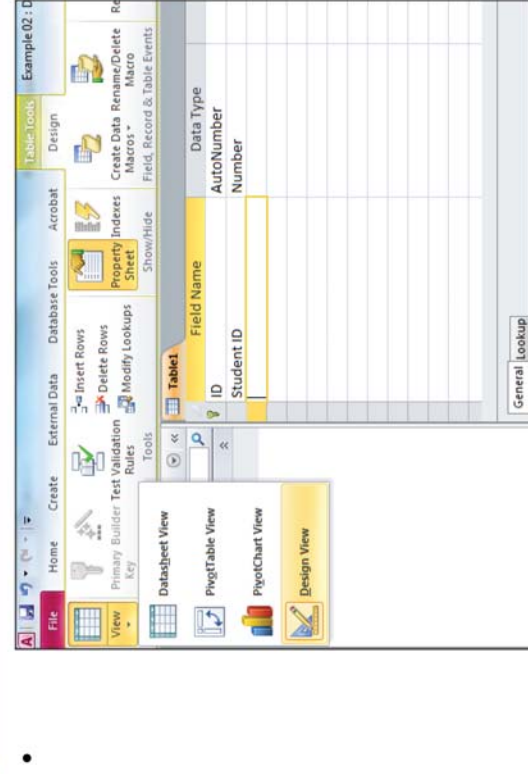
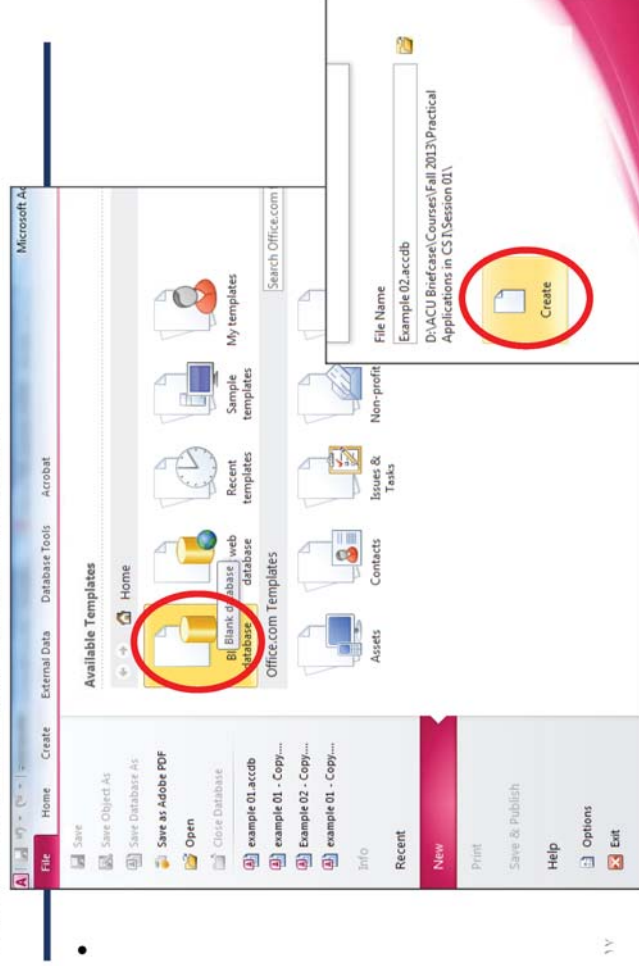
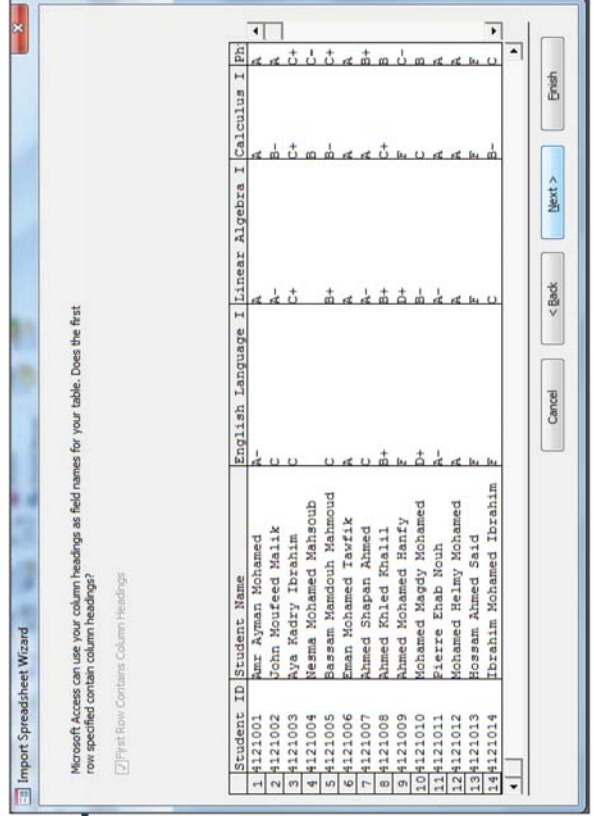
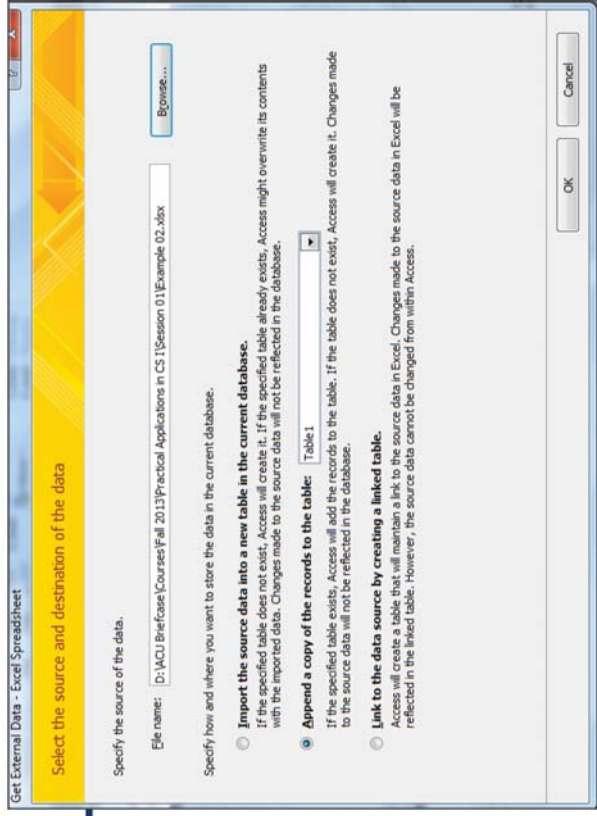
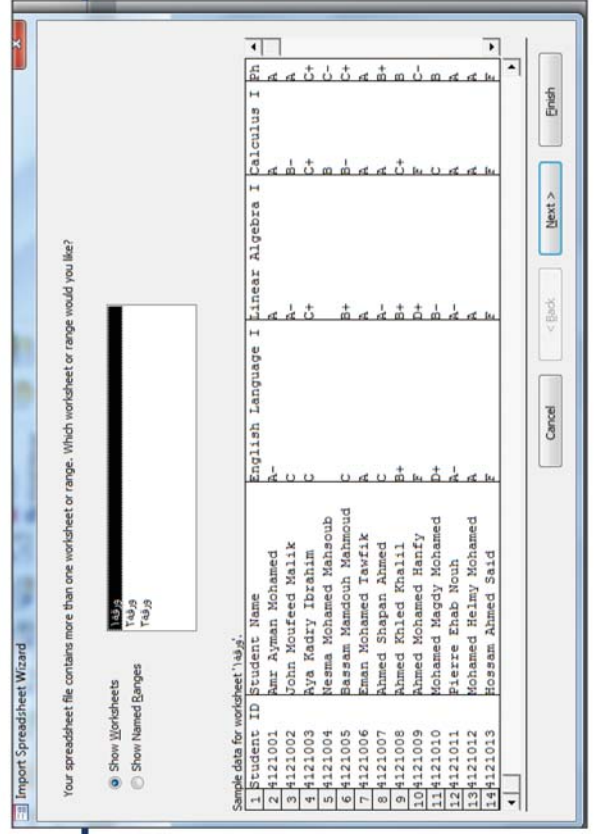
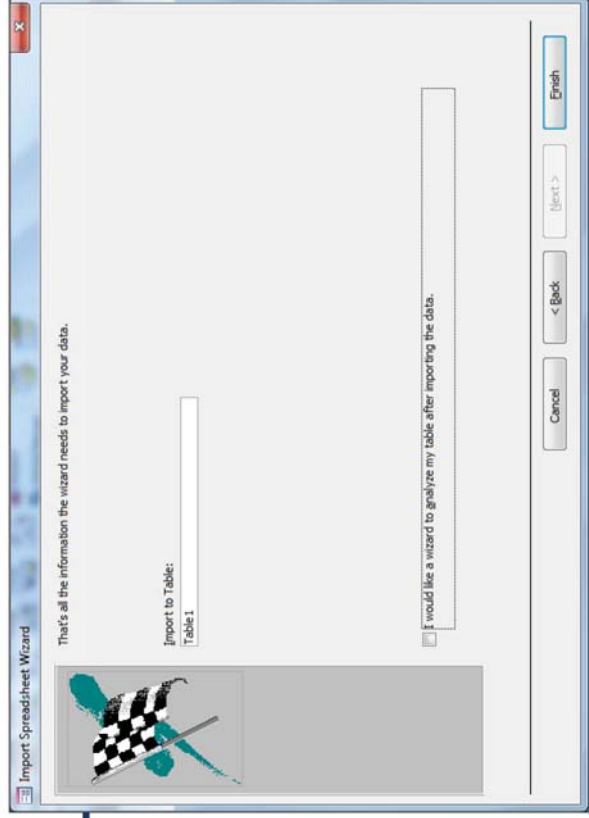
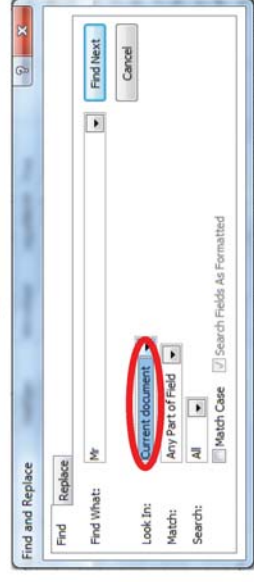


Table1		Field Name	Data Type
ID		AutoNumber	
Student ID		Number	
Student Name		Text	
English Language I		Text	
Linear Algebra I		Text	
Calculus I		Text	
Physics		Text	
Management		Text	
Presentation and Communication		Text	
Electronics		Text	
Fundamentals of Programming		Text	
Discrete Math		Text	
Calculus II		Text	
Introduction to Computer Science		Text	

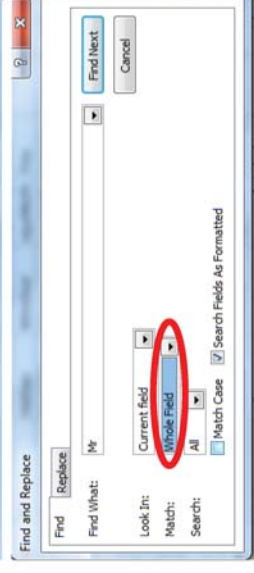
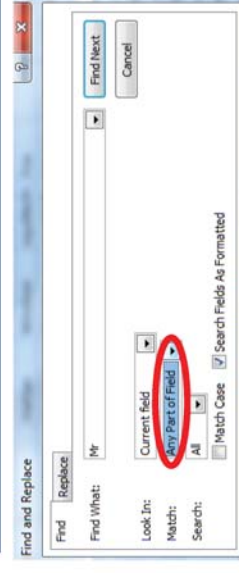




Searching



ID	Student ID	Student Name	English Lang	Linear Algebra	Physics	Manager	Presentation	Electronics	Fundament	Discrete Ma
2	4121001	Amr Ayman M	A-	A	A	A-	A-	A	A-	A
3	4121002	John Moufied	C	A-	B-	A	A-	A-	B	A
4	4121003	Aya Kady Ibra	C	C+	C+	B+	A-	D+	C	C-
5	4121004	Nesma Mohan	B	B	C-	C	B+	C+	B-	C+
6	4121005	Bassam Mamd	C	B+	A	A	A	A	A	A
7	4121006	Eman Mohame	A	A	A	A	A	A	A	A
8	4121007	Ahmed Shapar	C	A-	B+	B	B+	B	B	B+
9	4121008	Ahmed Khled	B+	B+	C	B	B	B	B	B+
10	4121009	Ahmed Mohan	F	D+	F	C	F	C	F	F
11	4121010	Mohamed Mag	D+	B-	C	B	B	A-	C	B-
12	4121011	Pierre Ehab N	A-	A	A	A	A	A	A	A-
13	4121012	Mohamed Heli	A	A	A	A	A	A	A	A
14	4121013	Hossam Ahme	F	F	F	F	F	F	F	F
15	4121014	Ibrahim Moha	E	C	B-	C	C	B+	D	C-



Find and Replace

Find

Replace

Find What: Mr

Look In: Current field

Match: Whole Field

Search: All

Up

Down

☒ Search Fields As Formatted

Find and Replace

Find

Replace

Find What: Mr

Look In: Current field

Match: Whole Field

Search: All

☒ Match Case ☒ Search Fields As Formatted

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students

Student N	Title	First Nam	Other Initial	Surname	Hall	UserId	Tutor	Option	Date of Birth
10012	Mr	David		Brachen	Bridges	squ06db	Evans	7	٨٠
10013	Mrs	Polly	M	Quinnell	Private	squ06pmc	Foot	4	٨٠
10091	Mr	Elliot		Green	Private	squ06eg	Morris	6	٨٠
10213	Miss	Laura	L	Short	St Patrick's	squ06ells	Fox	8	٨٠
10251	Mr	Roger	W	Harris	Sherfield	squ06rwh	Owen	5	٨٠
10317	Mrs	Phillippa	V	Hayman	Private	squ06pvh	Davies	5	٨٠
10351	Miss	Gemma		Stace	Sherfield	squ06gs	Foot	2	٨٠
10353	Mrs	Liz	F	Perry	Private	squ06fp	Owen	6	٨٠
10423	Miss	Caroline		Ruth					
10464	Miss	Lorna		Julian					
10563	Mr	Linda		Elaine					
10703	Miss	Emma		Julie					
10813	Miss	Rosie		Chris					
10848	Mr	Charles		Susan					
10865	Mr								
10933	Miss								
11011	Miss								

Find and Replace

Find

Replace

Find What: Mrs

Look In: Current field

Match: Whole Field

Search: All

☒ Match Case ☒ Search Fields As Formatted

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students

Student N	Title	First Nam	Other Initial	Surname	Hall	UserId	Tutor	Option	Date of Birth
12650	Miss	Brigitte	E	Maquire	Bridges	squ06ben	Evans	6	٨٠
12665	Mr	Andy	R	Skerritt	Bulmershe	squ06ars	Jones	5	٨٠
12677	Miss	Christina	N	Ebner	Childs	squ06cne	Peters	4	٨٠
12937	Mr	Richard	P	Tucker	Private	squ06rpt	Hunt	2	٨٠
12973	Miss	Joanne		Lawson	Private	squ06jl	Morris	4	٨٠
13034	Mr	Francis		Ward	St Patrick's	squ06fw	Peters	8	٨٠
13051	Mr	Richard	F	Pinder	St George's	squ06rfp	Williams	9	٨٠
13097	Miss	Victoria	D	Young	Childs	squ06vdy	Shepherd	2	٨٠
13190	Sarah								
13205	Miss	Sophie							
13221	Mr	William							
13228	Miss	Angela							
13269	Miss	Hannah							
13385	Mr	Simon							
13422	Miss	Cheryl							
13436	Miss	Joanne							
13539	Miss	Claudia							
13542	Mr	Giles							
13557	Miss	Kathleen							
13635	Mr	Peter	W	Butler	St George's	squ06pwt	Jones	4	٨٠
13762	Mr	Spencer	K	Lilley	Bridges	squ06skl	Smith	5	٨٠
13793	Mr	Adam	H	Marfell	Private	squ06ahr	Owen	2	٨٠
13876	Miss	Alyson	I	Alder	Windsor	squ06ala	Adams	9	٨٠
13991	Mr	Stephen	R	Cant	Private	squ06src	Fox	8	٨٠
14355	Mrs	Christine	I	Keeble	Private	squ06ck	Morris	7	٨٠

Find and Replace

Find

Replace

Find What: Mrs

Look In: Current field

Match: Whole Field

Search: All

☒ Match Case ☒ Search Fields As Formatted

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Microsoft Access

Microsoft Access finished searching the records. The search item was not found.

OK

Find and Replace

Find

Replace

Find What: Mrs

Look In: Current field

Match: Whole Field

Search: All

☒ Match Case ☒ Search Fields As Formatted

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- Obviously, this is not a very elegant way of retrieving information from the database - but it works!

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Permanent Sort

The screenshot shows the Microsoft Access interface with the 'students' table selected. In the 'Sort & Filter' ribbon, the 'Descending' button is circled in red. In the 'Field Name' list, the 'Hall' field is also circled in red. The data table below shows a list of students sorted by Hall.

Student N	Title	First Nam	Other Initial	Surname	Hall
11751	Mr	Alex	T	Callaghan	Hall
11775	Miss	Jennifer		Mitchell	Hall
11788	Mr	Abraham		Albury	Hall
11846	Miss	Katharine	H	Edwards	Hall
11847	Mr	John		Burton	Hall
11916	Miss	Vivien	S	Childs	Hall
11955	Miss	Abigail	L	Cox	Hall
11959	Miss	Maureen	R	Lusby	Hall
12083	Mr	Richard		Burton	Hall
12085	Miss	Janet	T	Gater	Hall
12164	Miss	Brenda		Kitson	Hall
12212	Mr	Martin		Armson	Hall
12349	Miss	Lydia	E	Lapthorn	Hall
12424	Miss	Philippa	W	Goodwin	Hall

Quick Sorting

The screenshot shows the Microsoft Access interface with the 'students' table selected. In the 'Sort & Filter' ribbon, the 'Descending' button is circled in red. In the 'Field Name' list, the 'Hall' field is also circled in red. The data table below shows a list of students sorted by Hall.

Student N	Title	First Nam	Other Initial	Surname	Hall
11751	Mr	Alex	T	Callaghan	Hall
11775	Miss	Jennifer		Mitchell	Hall
11788	Mr	Abraham		Albury	Hall
11846	Miss	Katharine	H	Edwards	Hall
11847	Mr	John		Burton	Hall
11916	Miss	Vivien	S	Childs	Hall
11955	Miss	Abigail	L	Cox	Hall
11959	Miss	Maureen	R	Lusby	Hall
12083	Mr	Richard		Burton	Hall
12085	Miss	Janet	T	Gater	Hall
12164	Miss	Brenda		Kitson	Hall
12212	Mr	Martin		Armson	Hall
12349	Miss	Lydia	E	Lapthorn	Hall
12424	Miss	Philippa	W	Goodwin	Hall

Indexes

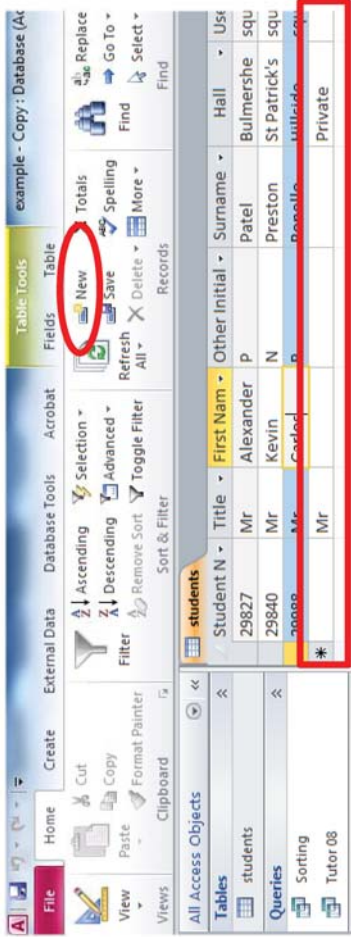
- used to speed up searching, sorting and grouping data
- used to guard against duplicate data entry (always used when a field is set up as a *Primary Key*)
- This is done through design view of table

The screenshot shows the Microsoft Access interface with the 'students' table selected. In the 'Field Properties' ribbon, the 'Indexed' checkbox is checked and circled in red. In the 'Field Name' list, the 'Hall' field is also circled in red. The data table below shows a list of students sorted by Hall.

Student N	Title	First Nam	Other Initial	Surname	Hall
11751	Mr	Alex	T	Callaghan	Hall
11775	Miss	Jennifer		Mitchell	Hall
11788	Mr	Abraham		Albury	Hall
11846	Miss	Katharine	H	Edwards	Hall
11847	Mr	John		Burton	Hall
11916	Miss	Vivien	S	Childs	Hall
11955	Miss	Abigail	L	Cox	Hall
11959	Miss	Maureen	R	Lusby	Hall
12083	Mr	Richard		Burton	Hall
12085	Miss	Janet	T	Gater	Hall
12164	Miss	Brenda		Kitson	Hall
12212	Mr	Martin		Armson	Hall
12349	Miss	Lydia	E	Lapthorn	Hall
12424	Miss	Philippa	W	Goodwin	Hall

Adding, Editing and Deleting Records

New:



Delete



Field Name	Data
Hall	Text
Userid	Text
Tutor	Text
Option	Number
DOB	Date/Time
General Lookup	
Field Size	8
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	No
Indexed	Yes (No Duplicates)
Unique	No
Primary Key	No
Field Mode	No Control
Field Sentence Mode	None
Smart Tags	



Thanks,..
See you next week (ISA),...