King Fahd University of Petroleum and Minerals

MIS-105--- Introduction to Computer Applications

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Lab#11

Chapter 3: Introduction to Queries

1. Building Queries

Lab Practice Problem

Given a database named 'Our Students.mdb'. Writing query objects for required data manipulations.

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Find the list of the students with their last name, state, major and age. The list should be arranged with respect to the age column in ascending order.

1. Create a query information matrix for the required query.

Query#7

Query Name	Student Ages
Query Type	SELECT (single table – with a computed field)
Tables Involved	Students
Fields Involved	LastName, State, Major, Age: Date()-[BirthDate]
Criteria Needed	None
Sorting	Age

2. Use the steps similar to the ones in handson 9.1 to finish the query design grid.

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Write 2 quer	roblem Statement	redite per student
1 Create a c	y to find the average c	iv for the required query
1. Cleate a C		ix for the required query.
Query#o		
	Query Name	Average Credits
	Query Type	SELECT (single table – a summary info is
		needed on Credits)
	Tables Involved	Students
	Fields Involved	Credits
	Criteria Needed	None
	Sorting	None
2. For writin	ig a summary query (to	otal query), a new row needs to be added in the query
arid called	Total Press 'Totals', S	button from the toolbar to add this new row
3 Select the	field on which summs	ury information (average) is needed i.e. Credits
J. Select the	neid on which summe	a Total row to calcot the function Average
4. Use the di	rop down list box in th	e Total row to select the function Average.
Field: Credits		
Table: Students		
Total: Avg	•	
Showy		
riteria:	Ŧ	
		AvgOfCredits
5. Run the q	uery to see the result.	56.583333333

Query#3: Problem Statement

Write a query to find the average credits for students in every city.

1. Create a query information matrix for the required query.

Query#9

Query Name	Student Averages Per City
Query Type	SELECT (single table –Summary query)
Tables Involved	Students
Fields Involved	City, Credits
Criteria Needed	None
Sorting	None

2. Use the steps similar to the ones in handson 9.8 to finish the query design grid. The only differences:

-Two fields will be brought in the query grid, named City & Credits.

-In the Total row, GroupBy will be selected under City and Avg will be selected under Credits.

45

21

100

100

105

50

25

28

30

63

120

52.5

42.5

Field:	City 🖃	Credits	
Table:	Students	Students	
Total:	Group By	Avg	
Sort:			
Show:		V	
Iriteria:			• Опесат : зывст бляса

City AvgOfCredits 3. The result will be shown as follows: Atlanta Baltimore Boston Buffalo Charleston Chicago Coral Gables Coral Spring: Denver Ft. Lauderda Gainesville Houston Miami

Query#4: Problem Statement

Write a query to find the average credits for students group by city and major. Covert the query to Crosstab with rows showing city values and columns showing major values.

1. Create a query information matrix for the required query.

Query#4

Query Name	Student Averages By City and Major
Query Type	SELECT (single table –Summary query)
Tables Involved	Students
Fields Involved	City, Credits
Criteria Needed	None
Sorting	None

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2. Use the steps similar to the ones in Query#3 to finish the query design grid. The only differences:

-Two fields will be brought in the query grid, named City & Credits.

-In the Total row, GroupBy will be selected under City and Avg will be selected under Credits.

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Fields	Chu .		A	Cue dite
Field;			<u>Major</u>	
Table:	Students	9	Students	Students
Total:	Group By		Group By	Avg
Sort:				
Show:			✓	
Criteria:				
or:				

3. The result will be shown as follows:

City	Major	AvgOfCredits
Atlanta	Communicatio	45
Atlanta	Undecided	45
Baltimore	Liberal Arts	50
Baltimore	Undecided	35
Boston	Undecided	21
Buffalo	Liberal Arts	100
Charleston	Engineering	100
Chicago	Communicatio	105
Coral Gables	Engineering	50
Coral Spring:	Engineering	25
Denver	Communicatio	28
Ft. Lauderda	Business	30
Ft. Lauderda	Communicatio	30
ecord: 🚺 🔳	1 + +	▶ * of 24

4. Select the query type as Crosstab query.

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	ss 2000 fil	e form: : : : : : : : : : : : : :	Crosstab Query Crosstab Que Make-Table Update Que Append Que	Σ All · v uery 2 Query ry ery			
5 Select row	and colum	n headings	<u>D</u> elete Quer	y oned in the O	uery text		
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					1		
	Field:	lity	Majo	or	Credits		
	Table: S	itudents	Stud	lents	Students		
	irosstah: D	aroup By Yow Heading	Grou	IP BY MD Heading	Value		
	Sort:	tow risduing		minnedding	7000		
	Criteria:						
	or:						
the output of t	he above o ao query Busines:	erosstab qu s Comm	ery is as f	follows:	Engineerin	g	Liberal Arts
the output of t	he above o ab Query Busines:	crosstab qu s Comm	uery is as f	ollows: Education	Engineerin	g	Liberal Arts
the output of t Query L. Crosse City Atlanta Baltimore	he above o ab query Busines:	crosstab qu s Comm	uery is as f unication 45	ollows: Education	Engineerin	g	Liberal Arts
the output of t City Atlanta Baltimore Boston	he above o ab query Busines:	crosstab qu s Comm	uery is as f unication 45	ollows: Education	Engineerin	g	Liberal Arts 50
the output of t City Atlanta Baltimore Boston Buffalo	he above o ab query Business	crosstab qu s Comm	unication 45	ollows: Education	Engineerin	g	Liberal Arts 50 100
the output of t City Atlanta Baltimore Boston Buffalo Charleston	he above o ab query Busines:	crosstab qı s Comm	unication 45	ollows: Education	Engineerin	g	Liberal Arts 50 100
the output of t City Atlanta Baltimore Boston Buffalo Charleston Chicago	he above o ab query Busines:	crosstab qı s Comm	unication 45 105	ollows: Education	Engineerin	g	Liberal Arts 50 100
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the output of t City Atlanta Baltimore Boston Buffalo Charleston Chicago Coral Gables Coral Spring: Denver	he above of Busines	crosstab qu s Comm	unication 45 105 28	ollows:	Engineerin	g 100 50 25	Liberal Arts 50 100
the output of t City Atlanta Baltimore Boston Buffalo Charleston Chicago Coral Gables Coral Spring: Denver Ft. Lauderda	he above of Busines	crosstab qu	unication 45 105 105 28 30	ollows:	Engineerin	g 100 50 25	Liberal Arts 50 100

Chapter 7: Building Applications: Macros and Switchboard (Volume II)

2. Creating Switchboard with Switchboard Manager

What is a *switchboard*?

- A *user interface form (or switchboard)* ties the objects in a database together, so that the database is easy to use.
- A switchboard can either be created manually or through switchboard manager.
- The switchboard displays a menu, often a series of menus (multi-level switchboards), which enables a non-technical person to move easily from one Access object to another.

What is Switchboard Manager?

- A Wizard program in Microsoft Access which creates the application switchboard automatically
- A Switchboard items table that stores information about each command.
- Prompts developer for information about each menu item
- Access creates a switchboard form that is displayed to the user

Problem Statement

Create a Switch Board form using switch board manager having 4 buttons listed. Each button should be opening a different form (already done in the database)

- First button should open the form 'About Sports'
- Second button should open the form 'Players'
- Third button should open the form 'Coaches'
- Forth button should open the form 'Teams'

🔀 Main Switchboard	
	Copy of Sports Objects
	About Sports
	<u>P</u> layers
	<u>C</u> oaches
	<u>I</u> eams
	<u> </u>

3. Use of Macros

Why Macros?

- 1. A macro is a set of instructions that automates some menu based task in Microsoft Access.
- 2. A macro allows users to automatically run a sequence of Microsoft Access menu commands.

Macro commands

- 3. Use F6 to come back and forth in command and parameter sections.
- 4. Use Shift-F2 to enter the parameter in a zoomed window.
- 5. Some of the commands available in macros are as follows:
 - a. OpenForm
 - b. GotoRecord
 - c. Close
 - d. Maximize
 - e. Minimize
 - f. MsgBox

💆 Macro1 : Macro			_	
Action		Comment		
FindNext				
	<u>•</u>			
			Cor	nmand parameters
	Action Argu	IMEnts		
Form Name			One	
View	Form		for	
Filter Name			Fo	
Where Condition			Vie	
Data Mode			De:	
Window Mode	Normal		Pr	
			Prev	
			0	
			Data	

Problem Statement

Write a macro for Exit Application Task. The steps to be done in the macro are as follows:

- 1. Print a GoodBye Message.
- 2. Close the form 'Switch board'
- 3. Close the database

Named the macro as 'Close Database'. Attach it to the Exit button of the Switchboard.

Debugging A Macro

An error box is shown with the error message.

Read the message carefully then open macro object again and correct the error.

AutoExec Macro

- Macro which runs automatically when the database is opened.
- Used to open the switchboard form automatically.

Problem Statement

Write a autoexec macro for opening the switchboard form automatically.

Steps:

- Create a NEW macro (using macro tab)
- Slect the command OpenForm and use the name of the switchboard form to open.
- Save the macro with the name autoexec.

Macro Groups

- Macro groups are used to write many macros in one Macro object.
- Each macro within the macro object is identified by a name

Problem Statement

Write a macro group for About Form buttons. The group must have three macros, named OK, Authors, and ContactUs. Each of these macros need to perform the following actions:

- OK Macro --- Close the About form
- Authors Macro --- Print a message showing your name as the author of the program
- ContactUs macro --- Print a message showing your contact details.
- Steps of creating a macro group (page number 342 Volume 2)
- The macros in the group are called using the name like, MacroGroupName.MacroName.

Creating an Incomplete Application or Prototypes

- Incomplete Applications or prototypes are ones in which many options are still not implemented but will be implemented in the future.
- The concept is to quickly build an application for the user use in order to get user's feedback about the current status of the application.

Problem Statement

Create a report menu (as a sub-switch board) and attach it on the main switch board. However the options available on the report menu are not supposed to open any report (not available) but just printing messages to tell the users that the reports will be implemented in later versions.



The message box appearing on pressing each button (done with macros)

Under De	evelopment
٩	The object will be implemented in the next version. In the meantime, you can gain an appreciation for the "look and feel" of the system by stepping through the various commands on the switchboard
	ОК

• Use Switchboard manager to integrate this new switchboard onto the main switchboard.