

File Edit View History Bookmarks Tools Help SMART Ink

CIS120/17 Course Page + www.pgrocer.net/PFGCIS120.html ...

Programming: Logic, Design and Implementation CIS120/17

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Programming: Logic, Design and Implementation (CIS120/17)

Weekly Schedule

If when I return an assignment you do not get a grade it means that you have to go over the assignment and fix and resubmit. Remember, all assignments including inclass assignments must be done by everyone. There is no makeup on quizzes and tests (some tests are accepted late - check).

Schedule by week or unit	Information to cover
	Please note that the first assignment is at the bottom of the list posted here. You should do the work in order! I may add to the weekly schedule during the course of the week, so please check back multiple times. Please keep copies of all work you submit until you receive your final grade at the end of the semester. Play computer means to figure out the results yourself by evaluating the data rather than running the query. Remember that I tape all my classes and capture notes on the Smartboard in the spring and fall. The recordings (audio) and the Smartboard are available for summer students to use under Audio and Smartboard.
HELP schedule	We are starting the semester with this help schedule. We may make changes based on student need, so check back! These are the times that Joe Fletcher, my SI, is available. Monday 2-7 in K101 Tuesday 2-5 in K104 Wednesday 2-6 in K101 Thursday 2-5 in K101 Jayson Rios from the tutoring center is also available on Monday 11-3 and Wednesday 11-1 in Fall River and Tuesday 11-2 in New Bedford.
Week #3 Week of September 16th	On Monday Sept 23rd I will not have an office hour at 10:00, contact me for an alternative if you need one. There is a lot of support and you should definitely use it if you have questions or encounter a problem. We are here to help you succeed! Please take advantage of that. To repeat: If you need help with something, now would be the time to ask your questions! Directions for downloading Access are located under Notes and Handouts. Using Office 365 to download the suite is probably the easiest approach. Here are some articles you can read if you want support in working with Access. Many go beyond what we are doing in class. They are a resource you can choose to use. Create a table Create a query Create a table from Microsoft Create a table (uses older version of Access) Create a query (uses older version of Access) Introduction to SQL W3Schools on SQL On Thursday we will look at SQL in Access some more. Examples of Access queries done in class: Query examples from 11:00 class Query examples from 12:30 class Inventory database and explanation: Inventory database Some SQL examples Let me know if you find a typo. Assignments: For students in class on Tuesday, you will break up in groups of 3 and choose a leader who will be responsible for mailing me your answers with a cc to you so you know that it came through. Note, there is no makeup/resubmit on group projects. Note students taking the class online can choose to come and participate in the group project in class even if we can't find you a seat. For students who are not in class (online or absent students). I will email you with your group and group leader (probably Wednesday). You can then

Can use if you do not have your own.

The screenshot shows the Microsoft Access 2016 interface. The 'Create' tab is selected in the ribbon. The 'Tables' section of the ribbon is highlighted with a pink arrow. The 'Queries' section is also highlighted. The 'All Access Objects' browser on the left shows the 'Queries' section expanded, listing several queries: Cimajor, gpa, multi, numcrsgr10, or, and three. The main workspace is empty. A blue text overlay in the center says: "We are now using SQL so we go in through create and then query design. Then we can not select a table and continue." The taskbar at the bottom shows the Windows Start button, a search bar, and pinned icons for Edge, File Explorer, Mail, and others.

The screenshot shows the Microsoft Access ribbon with the 'Query Tools' tab selected. The 'Design' tab is active. On the far left of the ribbon, there is a pink arrow pointing from the 'View' tab down towards the 'SQL' tab. The 'SQL' tab is highlighted in yellow. Below the ribbon, the 'All Access Objec...' dropdown menu is open, showing 'Tables' and 'Queries' sections with various database objects listed. The main workspace is titled 'Query1' and contains a grid for defining a query. A pink arrow points from the text in the center of the slide towards this grid.

When we do not select a table SQL comes up and we click on it. Then we will see SELECT; under Query1. Remember the semi-colon goes at the end of the select statement.

studentF19 : Database- E:\studentF19.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Design Tell me what you want to do

SQL View Run Select Make Append Update Crosstab Delete Pass-Through Data Definition Show Table Builder Insert Rows Insert Columns Delete Rows Delete Columns Return: All Query Setup Totals Parameters Table Names

All Access Obj... <> Query1

Tables stu Queries Clmajor gpa multi numcrsgr10 or three

*Untitled - Notepad

File Edit Format View Help

SELECT *

I am going to write a select. If I use * it will show all fields.

Note that I am writing in notepad and copying and pasting to Query1 so that the code can be better seen in the classroom.

Field: Table: Sort: Show: Criteria: or:

Ln 1, Col 9 100% Windows (CRLF) UTF

Ready Type here to search Num Lock SQL

12:34 PM 9/19/2019

The screenshot shows the Microsoft Access application interface. In the center, there is a 'Query1' window in 'Design' mode, which is a grid for defining a query's structure. To the right of this window, a separate 'Notepad' window is open, titled '*Untitled - Notepad'. Inside the Notepad window, the SQL command 'SELECT *' is typed. A blue tooltip box is overlaid on the screen, pointing to the asterisk in the SQL command, with the text: 'I am going to write a select. If I use * it will show all fields.' Below the Notepad window, another blue tooltip points to the 'Criteria' section of the query grid, with the text: 'Note that I am writing in notepad and copying and pasting to Query1 so that the code can be better seen in the classroom.' At the bottom of the screen, the Windows taskbar is visible, showing the date and time (12:34 PM, 9/19/2019), system icons, and the SMART Ink status.

studentF19 : Database- E:\studentF19.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Design Tell me what you want to do

View Primary Key Builder Test Validation Rules Insert Rows Delete Rows Modify Lookups Property Indexes Sheet Create Data Macros Rename/Delete Macro Relationships Object Dependencies Show/Hide Field, Record & Table Events Relationships

All Access Obj... Search... Tables stu Queries Clmajor gpa multi numcrsgr10 or three

Query1 stu

Field Name	Data Type	Description (Optional)
stuidno	Number	
stuname	Short Text	
major	Short Text	
gpa	Number	
numcrs	Number	

Field Properties

General	Lookup
Field Size	Integer
Format	
Decimal Places	Auto
Input Mask	
Caption	
Default Value	0
Validation Rule	
Validation Text	
Required	Yes
Indexed	Yes (No Duplicates)
Text Align	General

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

Design view. F6 = Switch panes. F1 = Help. Num Lock Type here to search 12:35 PM 9/19/2019

studentF19 : Database- E:\studentF19.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Design Tell me what you want to do

SQL View Paste Clipboard Sort & Filter Records Find Text Formatting

All Access Obj... Search... Tables stu Queries Clmajor gpa multi numcrsgr10 or three

Query1 *Untitled - Notepad

```
SELECT stuidno, stuname, major, gpa, numcrs
FROM stu;
```

Field: Table: Sort: Show: Criteria: or:

Ready Type here to search Num Lock SQL 12:36 PM 9/19/2019

The screenshot shows a Microsoft Access application window titled "studentF19". The ribbon at the top has tabs for File, Home, Create, External Data, Database Tools, Help, Design, and a search bar. The "Home" tab is selected. On the left, there's a navigation pane titled "All Access Objects" with sections for Tables (stu is selected), Queries, and Views. Below the navigation pane is a large text area for writing SQL queries. A sub-pane titled "Query1" displays the following SQL code:

```
SELECT stuidno, stuname, major, gpa, numcrs
FROM stu;
```

Below the main text area is a smaller window titled "*Untitled - Notepad" containing the same SQL code. The Windows taskbar at the bottom shows the Start button, a search bar, and icons for various applications like File Explorer, Edge, and Firefox. The system tray shows the date and time as 9/19/2019 at 12:36 PM.

Title: Sep 19-12:36 PM (6 of 40)

studentF19 : Database- E:\studentF19.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Tell me what you want to do

View Cut Copy Format Painter
Paste Refresh All Sort & Filter Advanced More
Filter Remove Sort Toggle Filter

New Totals Spelling Replace Go To Select
Save

Text Formatting

All Access Obj... X

Tables X

stu

Queries X

CImajor gpa multi numcrsgr10 or three

Query1

stuidno	stuname	major	gpa	numcrs
111	Susan Ash	CI	3.9	12
112	Linda French	CI	3.6	7
120	John Souza	BU	2.5	10
122	David Smith	CI	3.8	22
124	William Costa	CI	3	3
200	Zara Ames	BU	2.9	5
212	Tony Fisher	CI	3.4	6
222	Amy Richards	CI	3.85	14
*	0		0	0

Record: 14 of 8 No Filter Search

*Untitled - Notepad

```
File Edit Format View Help
SELECT stuidno, stuname, major, gpa, numcrs
FROM stu;
```

SMART Ink

Ready

Type here to search

12:37 PM 9/19/2019

studentF19 : Database- E:\studentF19.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Tell me what you want to do

View Paste Format Painter Clipboard

Filter Ascending Selection Descending Advanced Remove Sort Toggle Filter Refresh New Totals Spelling Find abac Replace Go To All Delete More Select

Find Calibri (Detail) 11 Text Formatting

All Access Obj... x

Tables stu

Queries Clmajor gpa multi numcrsgr10 or three

Query1

stuidno	stuname	major	gpa	numcrs
111	Susan Ash	CI	3.9	12
112	Linda French	CI	3.6	7
122	David Smith	CI	3.8	22
124	William Costa	CI	3	3
212	Tony Fisher	CI	3.4	6
222	Amy Richards	CI	3.85	14
*	0		0	0

*Untitled - Notepad

```
File Edit Format View Help
SELECT stuidno, stuname, major, gpa, numcrs
FROM stu
WHERE major = 'CI';
```

Now I have added the where clause to specify criteria for the query.

Record: 14 1 of 6 Search

Ready Type here to search 12:39 PM 9/19/2019

studentF19 : Database- E:\studentF19.accdb (Access 2007 - 2016 file format) - Access

SMART Ink

File Home Create External Data Database Tools Help Tell me what you want to do

View Cut Copy Format Painter

Paste Remove Sort Advanced

Filter Refresh All Delete More

New Totals Spelling

Find Replace Go To Select

Text Formatting

All Access Obj... Query1

stu

stuidno	stuname	major	gpa	numcrs
111	Susan Ash	CI	3.9	12
112	Linda French	CI	3.6	7
122	David Smith	CI	3.8	22
222	Amy Richards	CI	3.85	14
*			0	0

Record: 1 of 4 No Filter Search

***Untitled - Notepad**

File Edit Format View Help

```
SELECT stuidno, stuname, major, gpa, numcrs
FROM stu
WHERE major = 'CI' and gpa > 3.5;
```

12:41 PM
9/19/2019

studentF19 : Database- E:\studentF19.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Tell me what you want to do

View Cut Copy Format Painter
Paste Refresh All Sort & Filter Advanced More
Filter Remove Sort Toggle Filter

New Totals Spelling Replace Go To Select
Save

Text Formatting

All Access Obj... X

Tables X

stu

Queries X

CImajor
gpa
multi
numcrsgr10
or
three

Query1

stuidno	stuname	major	gpa	numcrs
111	Susan Ash	CI	3.9	12
112	Linda French	CI	3.6	7
122	David Smith	CI	3.8	22
124	William Costa	CI	3	3
200	Zara Ames	BU	2.9	5
212	Tony Fisher	CI	3.4	6
222	Amy Richards	CI	3.85	14
*	0		0	0

Record: 14 of 7 No Filter Search

*Untitled - Notepad

```
File Edit Format View Help
SELECT stuidno, stuname, major, gpa, numcrs
FROM stu
WHERE major = 'CI' or gpa > 2.5;
```

SMART Ink

Ready

Type here to search

12:42 PM 9/19/2019

studentF19 : Database- E:\studentF19.accdb (Access 2007 - 2016 file format) - Access

All Access Obj...

Views

Clipboard

Sort & Filter

Filter

Refresh All

Records

Find

Text Formatting

Query1

*Untitled - Notepad

File Edit Format View Help

```
SELECT stuidno, stuname, major, gpa, numcrs  
FROM stu  
WHERE major = 'CI' and gpa > 3.5 or numcrs > 10;
```

3 just

This code will not work because of the AND/OR resolution. I need parenthesis to make it work.

ANDs get resolved before ORs

Ln 3, Col 37 100% Windows (CRLF) UTF-8

Ready

Type here to search

Record: 14 < 1 of 7 > No Filter Search

Num Lock

SQL

12:47 PM
9/19/2019

studentF19 : Database - E:\studentF19.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Tell me what you want to do

Cut Copy Format Painter Filter Advanced Refresh Remove Sort Toggle Filter Sort & Filter Records Find Text Formatting

All Access Obj... Search... Tables stu Queries CImajor gpa multi numcrsgr10 or three

*Untitled - Notepad

```
SELECT stuidno, stuname, major, gpa, numcrs
FROM stu
WHERE major = 'CI' and (gpa > 3.5 or numcrs > 10)
```

either ANDs get resolved before ORs Parenthesis can Change Order of Operation

Major CI
gpa > 3.5
numcrs > 10
either
ANDs get resolved before ORs
Parenthesis can Change Order of Operation

Ln 3, Col 37 | 100% | Windows (CRLF) | UTF-8

Record: 1 of 7 | No Filter | Search

Type here to search

Ready

12:48 PM 9/19/2019

studentF19 : Database- E:\studentF19.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Tell me what you want to do

Cut Copy Paste Format Painter Filter Ascending Descending Advanced Refresh Save Totals Spelling Find Replace Go To Select Sort & Filter Records More Find Text Formatting

All Access Obj... Search... Tables Queries

stu Clmajor gpa multi numcrsgr10 or three

Query1

stuidno	stuname	major	gpa	numcrs
111	Susan Ash	CI	3.9	12
112	Linda French	CI	3.6	7
122	David Smith	CI	3.8	22
222	Amy Richards	CI	3.85	14
*	0		0	0

*Untitled - Notepad

```
File Edit Format View Help
SELECT stuidno, stuname, major, gpa, numcrs
FROM stu
WHERE major = 'CI' and (gpa > 3.5 or numcrs > 10);
```

Record: 1 of 4 No Filter

Ready

Type here to search

12:49 PM 9/19/2019

The screenshot shows a Microsoft Access application window. On the left, the navigation pane lists 'Tables' (stu), 'Queries' (Clmajor, gpa, multi, numcrsgr10, or, three), and 'Views'. The main area displays a query results grid titled 'Query1' with five columns: stuidno, stuname, major, gpa, and numcrs. The data shows four records for students Susan Ash, Linda French, David Smith, and Amy Richards, all majoring in CI. The bottom of the Access window shows a status bar with 'Ready' and a search bar. Below the Access window is a taskbar with icons for File Explorer, Edge, File Manager, Task View, Firefox, and Adobe Acrobat Reader. The system tray shows the date and time as 12:49 PM on 9/19/2019.

studentF19 : Database- E:\studentF19.accdb (Access 2007 - 2016 file format) - Access

All Access Obj...

Search...
Tables stu
Queries Clmajor gpa multi numcrsgr10 or three

Query1

stuidno	stuname	major	gpa	numcrs
111	Susan Ash	CI	3.9	12
112	Linda French	CI	3.6	7
122	David Smith	CI	3.8	22
212	Tony Fisher	CI	3.4	6
222	Amy Richards	CI	3.85	14
*	0		0	0

Record: 1 of 5

*Untitled - Notepad

```
File Edit Format View Help
SELECT stuidno, stuname, major, gpa, numcrs
FROM stu
WHERE major = 'CI' and (gpa > 3.6 or numcrs > 5);
```

SMART Ink

Ready

Type here to search

12:51 PM 9/19/2019

The screenshot shows an Microsoft Access application window titled "studentF19". The main area displays a query results grid with five records. The columns are labeled "stuidno", "stuname", "major", "gpa", and "numcrs". The records are: 111 Susan Ash CI 3.9 12, 112 Linda French CI 3.6 7, 122 David Smith CI 3.8 22, 212 Tony Fisher CI 3.4 6, and 222 Amy Richards CI 3.85 14. A green hand-drawn arrow points from the WHERE clause of the SQL query in the Notepad window down to the corresponding filter row in the Access query grid.

studentF19 : Database- E:\studentF19.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Design Tell me what you want to do

View Run Select Make Table Append Update Crosstab Delete Union Pass-Through Data Definition Insert Rows Insert Columns Show Table Builder Return: Query Setup Totals Parameters Table Names

Results Query Type Show/Hide

All Access Obj... <> Query1

Search... Tables stu Queries Clmajor gpa multi numcrsgr10 or three

To try in class:

CI $gpa > 3.6$

BU OR $numcrs > 5$

Ready Num Lock SQL

Type here to search

12:52 PM 9/19/2019

The screenshot shows the Microsoft Access application interface. In the left pane, the 'Tables' section is selected, displaying tables like 'stu', 'Clmajor', 'gpa', etc. The main area is titled 'Query1'. Handwritten blue text is overlaid on the screen, reading 'To try in class:' followed by two queries: 'CI' with the condition 'gpa > 3.6' and 'BU' with the condition 'OR numcrs > 5'. Below the application window is the Windows taskbar, which includes the Start button, a search bar, pinned icons for File Explorer, Edge, and others, and system status indicators.

studentF19 : Database - E:\studentF19.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Design Q Tell me what you want to do

View Run Select Make Append Update Crosstab Delete Pass-Through Data Definition Insert Rows Insert Columns Delete Rows Delete Columns Builder Show Table Query Type Query Setup Totals Parameters Table Names Return: Show/Hide

All Access Obj... <> Query1

Tables stu

Queries CImajor gpa multi numcrs10 or three

CI $gpa > 3.6$
OR
BU $numcrs > 5$

*Untitled - Notepad

```
File Edit Format View Help
SELECT stuidno, stuname, major, gpa, numcrs
FROM stu
WHERE major = 'CI' and gpa > 3.6 or major = 'BU' and numcrs > 5;
```

1st / 2nd
3rd

Ready

Type here to search

12:56 PM 9/19/2019

studentF19 : Database- E:\studentF19.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Tell me what you want to do

View Cut Copy Format Painter
Paste Refresh All Delete More
Filter Advanced Find

Records Find Text Formatting

All Access Obj... Query1

Search... Tables Queries

Tables stu Queries Clmajor gpa multi numcrsgr10 or three

stuidno	stuname	major	gpa	numcrs
111	Susan Ash	CI	3.9	12
120	John Souza	BU	2.5	10
122	David Smith	CI	3.8	22
222	Amy Richards	CI	3.85	14
*			0	0

Record: 14 < 1 of 4 > No Filter Search

CT qpa > 3.6
OR
BU numcrs > 5

Type here to search Num Lock SQL 12:57 PM 9/19/2019

The screenshot shows the Microsoft Access application interface. The top menu bar includes File, Home, Create, External Data, Database Tools, Help, Design, and a search bar. The main area displays a query design window titled "Query1". The left pane lists tables and queries, with "stu" selected. The central pane shows the "stu" table structure with fields: * (all), stuidno, stuname, major, gpa, and numcrs. Handwritten notes in blue ink are overlaid on the screen, reading: "CI OR BU" above the first two columns, and "gpa > 3.6" and "numcrs > 5" below them. The bottom pane shows the SQL view of the query:

```
Field: stuidno Table: stu Sort: Show: Criteria: or: Field: stuname Table: stu Sort: Show: Criteria: or: Field: major Table: stu Sort: Show: Criteria: or: Field: gpa Table: stu Sort: Show: Criteria: or: Field: numcrs Table: stu Sort: Show: Criteria: or: Field: [major] Table: stu Sort: Show: Criteria: or: Field: [gpa] Table: stu Sort: Show: Criteria: or: Field: [numcrs] Table: stu Sort: Show: Criteria: or:
```

The SQL code generated is:

```
SELECT * FROM stu WHERE ((major = 'CI') OR (major = 'BU')) AND (gpa > 3.6) AND (numcrs > 5)
```

Title: Sep 19-12:57 PM (18 of 40)

studentF19 : Database- E:\studentF19.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Design Tell me what you want to do

View Run Select Make Table Append Update Crosstab Delete Data Definition Show Table Builder Insert Rows Insert Columns Delete Rows Delete Columns Return: All Query Type Query Setup Show/Hide Totals Parameters Table Names

All Access Obj... <> Query1

Tables stu
Queries Clmajor gpa multi numcrsgr10 or three

stu

* stuidno stuname major gpa numcrs

CI + either $gpa > 3.6$
or
 $numcrs > 10$
has to be true

Field: stuidno stuname major gpa numcrs
Table: stu stu stu stu
Sort:
Show:
Criteria:
or:
'C'
'C'
 >3.6
 >10

Ready Num Lock SQL

Type here to search

1:00 PM 9/19/2019

studentF19 : Database- E:\studentF19.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Design Tell me what you want to do

View Run Select Append Update Crosstab Delete Insert Rows Union Pass-Through Data Definition Show Table Builder Insert Columns Delete Rows Delete Columns Return: Query Setup Totals Parameters Table Names Query Type

All Access Obj... <> **Query1**

Tables stu

Queries Clmajor gpa multi numcrsgr10 or three

Search...

```
SELECT stu.stuidno, stu.stuname, stu.major, stu.gpa, stu.numcrs
FROM stu
WHERE (((stu.major)='CI') AND ((stu.gpa)>3.6)) OR (((stu.major)='CI') AND ((stu.numcrs)>10));
```

This is the code that is generated when you go from the user interface to SQL. Note the excessive parenthesis. You should write a cleaner version without the extra parenthesis.

CI + either $gpa > 3.6$
or
 $numcrs > 10$
has to be true

*Untitled - Notepad

```
File Edit Format View Help
SELECT stu.stuidno, stu.stuname, stu.major, stu.gpa, stu.numcrs
FROM stu
WHERE (((stu.major)='CI') AND ((stu.gpa)>3.6)) OR (((stu.major)='CI') AND ((stu.numcrs)>10));
```

Ready Type here to search 1:02 PM 9/19/2019

studentF19 : Database- E:\studentF19.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Design Tell me what you want to do

View Run Select Append Update Crosstab Delete Data Definition Insert Rows Insert Columns Show Table Builder Delete Rows Delete Columns Return: Query Type Query Setup Show/Hide

All Access Obj... <> Query1

Tables stu

Queries CImajor gpa multi numcrsgr10 or three

```
SELECT stu.stuidno, stu.stuname, stu.major, stu.gpa, stu.numcrs
FROM stu
WHERE (((stu.major)='CI') AND ((stu.gpa)>3.6)) OR (((stu.major)='CI') AND ((stu.numcrs)>10));
```

CI + either $gpa > 3.6$
or
has to be true $numcrs > 10$

major = 'CI' and $(gpa > 3.6 \text{ Or } numcrs > 10)$

*Untitled - Notepad

```
File Edit Format View Help
SELECT stu.stuidno, stu.stuname, stu.major, stu.gpa, stu.numcrs
FROM stu
WHERE (((stu.major)='CI') AND ((stu.gpa)>3.6)) OR (((stu.major)='CI') AND ((stu.numcrs)>10));
```

Ready

Type here to search 1:05 PM 9/19/2019

studentF19 : Database- E:\studentF19.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Design Tell me what you want to do

View Run Select Append Update Crosstab Delete Insert Rows Insert Columns Show Table Builder Query Setup Show/Hide

Results

All Access Obj... <> **Query1**

Tables stu

Queries Cimajor gpa multi numcrsgr10 or three

```
SELECT stu.stuidno, stu.stuname, stu.major, stu.gpa, stu.numcrs
FROM stu
WHERE (((stu.major)='CI') AND ((stu.gpa)>3.6)) OR (((stu.major)='CI') AND ((stu.numcrs)>10));
BU
```

NEXT example to try:

BU and gpa < 3.5
OR
numcrs > 10

Ready Type here to search Num Lock SQL 1:08 PM 9/19/2019

studentF19 : Database- E:\studentF19.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Design Tell me what you want to do

View Run Select Make Table Append Update Crosstab Delete Union Pass-Through Show Table Insert Rows Insert Columns Delete Rows Delete Columns Data Definition Builder Return: Query Type Query Setup Show/Hide Totals Parameters Property Sheet Table Names

All Access Obj... < Query1

Search... Tables stu Queries Clmajor gpa multi numcrsgr10 or three

Alternative would be to ask the simple question is numcrs > 10 first and the no would then ask about BU and gpa < 3.5.

*Untitled - Notepad

```
SELECT *
FROM stu
WHERE major = 'BU' and gpa < 3.5 or numcrs > 10;
```

Ready

Type here to search

1:12 PM 9/19/2019

File Edit View History Bookmarks Tools Help

SMART Ink

CIS120/17 Course Page

www.pgrocer.net/PFGCIS120.html

Programming: Logic, Design and Implementation CIS120/17

About This Course:

Need help or support?
Read Me First
Introduction to CIS120/17
Syllabus
Withdrawal Policy as of Fall 2017

Site Resources:

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Weekly Schedule:

Weekly schedule
Assignment summary

Links:

Links & Tutorials

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Week #3 Week of September 16th

On Monday Sept 23rd I will not have an office hour at 10:00, contact me for an alternative if you need one. There is a lot of support and you should definitely use it if you have questions or encounter a problem. We are here to help you succeed! Please take advantage of that.

To repeat: If you need help with something, now would be the time to ask your questions!

Directions for downloading Access are located under Notes and Handouts. Using Office 365 to download the suite is probably the easiest approach. Here are some articles you can read if you want support in working with Access. Many go beyond what we are doing in class. They are a resource you can choose to use.

[Create a table](#)
[Create a query](#)
[Create a table from Microsoft](#)
[Create a table \(uses older version of Access\)](#)
[Create a query \(uses older version of Access\)](#)
[Introduction to SQL](#)
[W3Schools on SQL](#)

On Thursday we will look at SQL in Access some more. Examples of Access queries done in class:
[Query examples from 11:00 class](#)
[Query examples from 12:30 class](#)
Inventory database and explanation:
[Inventory database](#)
[Some SQL examples](#) Let me know if you find a typo.

Assignments:

For students in class on Tuesday, you will break up in groups of 3 and choose a leader who will be responsible for mailing me your answers with a cc to you so you know that it came through. Note, there is no makeup/resubmit on group projects.

Note students taking the class online can choose to come and participate in the group project in class even if we can't find you a seat.

For students who are not in class (online or absent students), I will email you with your group and group leader (probably Wednesday). You can then communicate via email (I am waiting to see who is in class before assigning the web groups). I am sending out group assignments (students who have not passed in work are not assigned to a group until I have started receiving assignments). **Please note that in the groups everyone should work on all the problems! You are working together as a group!**

Note: On the flowcharts in the assignment, sometimes the word Technology is cut off and you see Course instead of Course Technology.

[Group DB assignment](#)
[Group DB assignment \(html version\)](#)
[Answer sheet for group project](#)
[Book Database to use in answering questions \(Access2016, 2013\)](#)

If you do not receive a group assignment, get back to me.

Database assignment to query with SQL:

We will talk about SQL in class on Thursday, so I strongly suggest you do not start this assignment until we have gone over SQL. You need to send me the database and a list of the SQL queries you wrote so that if the queries get "Microsoft fixed" I can see what you wrote. Remember, the queries have to all be done in SQL. This is not a group project. It needs to be done individually.

[Softskills database to query with SQL](#)
Check back!

See the help hours above.
This week we will look at uploading a web page to our cisweb. Please bring your user name and password for working with cisweb to class on Tuesday. The information was sent to you at your bcc email.
[More about soft skills - please read](#)

We will also start looking at Microsoft Access 2016 this week. If you would like a copy for your computer you could choose to download Microsoft Access 2016 from Office 365.
[Access 2016 using Office 365](#)

Please do not change any of the passwords we have given you. I need to be able to get to your site as does the IT staff if there is a problem. Several of you have asked about words for different colors. Here is a link:

Type here to search 1:14 PM 9/19/2019

SMART Ink

inventory : Database- E:\inventory.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Design Tell me what you want to do

View Primary Key Test Validation Rules Insert Rows Delete Rows Modify Lookups Property Indexes Sheet Show/Hide Create Data Macros Rename/Delete Macro Relationships Object Dependencies Field, Record & Table Events Relationships

All Access Obj... inven

Search... Tables Queries

inven

	Field Name	Data Type	Description (Optional)
1	itemno	Short Text	
2	itemname	Short Text	
3	dept	Short Text	
4	price	Number	
5	onhand	Number	
6	onorder	Number	
7	reorderpoint	Number	

Field Properties

General Lookup

Field Size	5
Format	
Input Mask	
Caption	
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
Text Align	General

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

Design view. F6 = Switch panes. F1 = Help.

Type here to search

Num Lock

1:15 PM 9/19/2019

SMART Ink

File Home Create External Data Database Tools Help Design Tell me what you want to do

View Primary Key Builder Test Validation Rules Insert Rows Delete Rows Modify Lookups Property Indexes Sheet Show/Hide Create Data Macros Rename/Delete Macro Relationships Object Dependencies Field, Record & Table Events Relationships

All Access Obj... inven

Search... Tables Queries

inven

Field Name	Data Type	Description (Optional)
itemno	Short Text	
itemname	Short Text	
dept	Short Text	
price	Number	
onhand	Number	
onorder	Number	
reorderpoint	Number	

Field Properties

General Lookup

Field Size	Double
Format	
Decimal Places	Auto
Input Mask	
Caption	
Default Value	0
Validation Rule	
Validation Text	
Required	No
Indexed	No
Text Align	General

The data type determines the kind of values that users can store in the field. Press F1 for help on data types.

Design view. F6 = Switch panes. F1 = Help.

Type here to search

Num Lock

1:15 PM
9/19/2019

inventory : Database- E:\inventory.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Design Tell me what you want to do

View Primary Key Insert Rows Test Validation Rules Delete Rows Modify Lookups Property Indexes Sheet Create Data Macros Rename/Delete Macro Relationships Object Dependencies Show/Hide Field, Record & Table Events Relationships

All Access Obj...

Search... Tables Queries

inven

Field Name	Data Type	Description (Optional)
itemno	Short Text	
itemname	Short Text	
dept	Short Text	
price	Number	
onhand	Number	
onorder	Number	
reorderpoint	Number	

Field Properties

General Lookup

Field Size	Integer
Format	
Decimal Places	Auto
Input Mask	
Caption	
Default Value	0
Validation Rule	
Validation Text	
Required	No
Indexed	No
Text Align	General

The data type determines the kind of values that users can store in the field. Press F1 for help on data types.

Design view. F6 = Switch panes. F1 = Help.

Type here to search

1:16 PM 9/19/2019

Field Properties

General

Field Size	Integer
Format	
Decimal Places	Auto
Input Mask	
Caption	
Default Value	0
Validation Rule	
Validation Text	
Required	No
Indexed	No
Text Align	General

File Home Create External Data Database Tools Help Fields Table Tell me what you want to do

SMART Ink

Views Clipboard

All Access Obj... <> inven

Tables inven

Queries Query1 Query2 Query3 Query4 Query5 Query6 Query7 Query8 Query9

itemno	itemname	dept	price	onhand	onorder	reorderpoint	Click to Add
111	Good Night Mc BK	BK	12.99	24	30	40	
1212	Heidi	BK	14.99	12	25	25	
1234	Adven Reddy F BK		14.75	5	0	10	
2121	Teddy Bear	TY	19.95	55	20	40	
2222	Building Blocks	TY	27.98	50	112	50	
2345	Doll House	TY	55.98	2	5	10	
3333	Basketball	SP	17.99	24	25	50	
3456	Net/Hoop	SP	27.95	10	0	25	
4444	Jump Rope	SP	5.99	60	120	50	
*			0	0	0	0	

Record: 1 of 9

Type here to search

1:16 PM 9/19/2019

Title: Sep 19-1:16 PM (28 of 40)

inventory : Database- E:\inventory.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Design Tell me what you want to do

View Run Select Make Append Update Crosstab Delete Data Definition

Insert Rows Insert Columns Show Table Insert Rows Delete Rows Delete Columns Builder Return: Query Setup Totals Parameters Table Names

All Access Obj... <> **Query1**

Tables **inven** Queries **Query1** Query2 Query3 Query4 Query5 Query6 Query7 Query8 Query9

```
SELECT itemno, itemname, dept, price
FROM inven
WHERE dept = 'TY' and price > 25;
```

Ready Num Lock SQL

Type here to search

1:17 PM 9/19/2019

Title: Sep 19-1:17 PM (29 of 40)

SMART Ink

File Home Create External Data Database Tools Help Design

Query Tools

inventory : Database- E:\inventory.accdb (Access 2007 - 2016 file format) - Access

View Run Select Append Update Crosstab Delete Data Definition Insert Rows Insert Columns Union Pass-Through Show Table Show Builder Query Type Show/Hide

Insert Rows Insert Columns Union Pass-Through Show Table Show Builder Query Setup Show/Hide

Insert Rows Insert Columns Union Pass-Through Show Table Show Builder Query Setup Show/Hide

Insert Rows Insert Columns Union Pass-Through Show Table Show Builder Query Setup Show/Hide

Insert Rows Insert Columns Union Pass-Through Show Table Show Builder Query Setup Show/Hide

Insert Rows Insert Columns Union Pass-Through Show Table Show Builder Query Setup Show/Hide

Insert Rows Insert Columns Union Pass-Through Show Table Show Builder Query Setup Show/Hide

Insert Rows Insert Columns Union Pass-Through Show Table Show Builder Query Setup Show/Hide

Insert Rows Insert Columns Union Pass-Through Show Table Show Builder Query Setup Show/Hide

Insert Rows Insert Columns Union Pass-Through Show Table Show Builder Query Setup Show/Hide

All Access Obj... <> <>

Query2

Search... Tables Queries

inven

Query1

Query2

Query3

Query4

Query5

Query6

Query7

Query8

Query9

SELECT itemno, itemname, dept
FROM inven
WHERE dept = 'TY' or dept = 'SP';

Ready

Type here to search Num Lock

1:18 PM 9/19/2019

Title: Sep 19-1:18 PM (30 of 40)

SMART Ink

File Home Create External Data Database Tools Help Design Tell me what you want to do

View Run Select Make Table Append Update Crosstab Delete Pass-Through Data Definition

Insert Rows Insert Columns Insert Columns Delete Rows Delete Columns Show Table Builder Query Setup Show/Hide

Results

All Access Obj... <> Query1 Query2 Query3

Tables inven

Queries Query1 Query2 Query3 Query4 Query5 Query6 Query7 Query8 Query9

SELECT itemno, itemname, onhand, onorder
FROM inven
WHERE onhand > 50 or onorder > 100;

ready Type here to search Num Lock 1:18 PM 9/19/2019

The screenshot shows the Microsoft Access 2016 interface. The main window displays a query in Design view. The SQL code is:

```
SELECT itemno, itemname, onhand, onorder
FROM inven
WHERE onhand > 50 or onorder > 100;
```

The 'Tables' pane on the left shows the 'inven' table. The 'Queries' pane lists nine queries, with 'Query3' currently selected. The status bar at the bottom shows the date and time as 9/19/2019 and 1:18 PM.

Title: Sep 19-1:18 PM (31 of 40)

inventory : Database- E:\inventory.accdb (Access 2007 - 2016 file format) - Access

SMART Ink

File Home Create External Data Database Tools Help Design Tell me what you want to do

View Run Select Make Table Append Update Crosstab Delete Data Definition Insert Rows Insert Columns Show Table Builder Delete Rows Delete Columns Return: Property Sheet Totals Parameters Table Names

All Access Obj... <> Query1 Query2 Query3 Query4

Tables inven

Queries Query1 Query2 Query3 Query4 Query5 Query6 Query7 Query8 Query9

```
SELECT itemno, itemname, onhand, onorder
FROM inven
WHERE onhand > 50 and onorder > 100;
```

Ready Type here to search Num Lock SQL

1:18 PM 9/19/2019

Title: Sep 19-1:18 PM (32 of 40)

inventory : Database- E:\inventory.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Design Tell me what you want to do

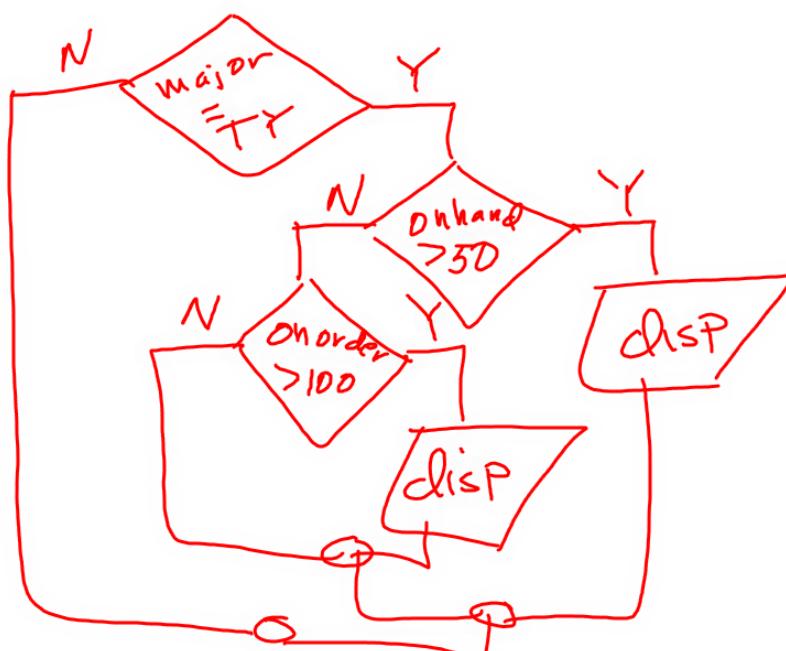
View Run Select Append Update Crosstab Delete Insert Rows Insert Columns Delete Rows Delete Columns Data Definition Show Table Builder Return: Query Type Query1 Query2 Query3 Query4 Query5 Query Setup Show/Hide Totals Parameters Table Names

All Access Obj... <> < Query1 Query2 Query3 Query4 Query5 >

Tables inven

Queries Query1 Query2 Query3 Query4 **Query5** Query6 Query7 Query8 Query9

SELECT itemno, itemname, dept, onhand, onorder
FROM inven
WHERE dept = 'TY' and (onhand > 50 or onorder > 100);



Ready Num Lock SQL 1:25 PM 9/19/2019

inventory : Database- E:\inventory.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Tell me what you want to do

Cut Copy Format Painter Filter Ascending Selection Descending Advanced Refresh Save Totals Spelling Find Replace Go To Select Sort & Filter All Remove Sort Toggle Filter Records Find Text Formatting

All Access Obj... X

Tables Queries X

Search... Tables Queries X

itemno itemname dept onhand onorder

itemno	itemname	dept	onhand	onorder
2121	Teddy Bear	TY	55	20
2222	Building Blocks	TY	50	112
*			0	0

```

graph TD
    A{Major = TY} -- N --> B{Onhand > 50}
    A -- Y --> C[dsp]
    B -- N --> D[clisp]
    B -- Y --> E[clisp]
    D --> F(( ))
    E --> F
  
```

Record: 1 of 2 No Filter Search

Ready Type here to search Num Lock SQL 1:26 PM 9/19/2019

inventory : Database- E:\inventory.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Design Tell me what you want to do

View Run Select Append Update Crosstab Delete Show Table Insert Rows Insert Columns Delete Rows Delete Columns Builder Return: Totals Parameters Table Names

Results Query1 Query2 Query3 Query4 Query5 Query6

All Access Obj... Search... Tables Queries

inven

Query1 Query2 Query3 Query4 Query5 Query6 Query7 Query8 Query9

SELECT itemno, itemname, dept, onhand, onorder
FROM inven
WHERE dept = 'TY' and onhand > 50 or onorder > 100;

inventory : Database- E:\inventory.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Tell me what you want to do

View Cut Copy Format Painter

Views Clipboard

Filter Ascending Selection Advanced Refresh Save Totals ABC Replace

Descending Remove Sort Toggle Filter All Go To More Find

Find ab abc Go To Select

Text Formatting

All Access Obj... X

Query1 Query2 Query3 Query4 Query5 Query6

itemno	itemname	dept	onhand	onorder
2121	Teddy Bear	TY	55	20
2222	Building Blocks	TY	50	112
4444	Jump Rope	SP	60	120
*			0	0

```

graph TD
    Start(( )) --> Cond1{On order > 100}
    Cond1 -- N --> Disp1[disp]
    Cond1 -- Y --> Cond2{On hand > 50}
    Cond2 -- N --> Disp2[disp]
    Cond2 -- Y --> Cond3{On hand > 50}
    Cond3 -- N --> Disp3[disp]
    Cond3 -- Y --> End(( ))
    
```

Hand-drawn annotations on the flowchart:

- Cond1: On order > 100
- Cond2: On hand > 50
- Cond3: On hand > 50
- Disp1, Disp2, Disp3: disp
- Final condition: On hand > 50
- Final output: disp

inventory : Database- E:\inventory.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Design Tell me what you want to do

View Run Select Make Table Append Update Crosstab Delete Pass-Through Data Definition Insert Rows Insert Columns Delete Rows Delete Columns Show Table Builder Return: Totals Parameters Table Names Query Type Query1 Query2 Query3 Query4 Query5 Query6 Query7 Query Setup Show/Hide

All Access Obj... <> Results Search... Tables Queries

inven

Tables Queries

inven

SELECT itemno, itemname, dept, price, onhand
FROM inven
WHERE dept = 'TY' and price < 100 or dept = 'SP' and onhand < 50;

Note that at this point we know that dept is TY so it cannot be SP so there is no need to ask that question.

inventory : Database- E:\inventory.accdb (Access 2007 - 2016 file format) - Access

File Home Create External Data Database Tools Help Tell me what you want to do

View Cut Copy Format Painter

Filter Ascending Selection

Descending Advanced

Refresh All Save Spelling

Replace Go To

Remove Sort Toggle Filter

New Totals

Find

Text Formatting

All Delete More

Sort & Filter Records Find

Calibri (Detail) 11

B I U A

All Access Obj...

Query1 Query2 Query3 Query4 Query5 Query6 Query7

Tables inven

Queries Query1 Query2 Query3 Query4 Query5 Query6 Query7 Query8 Query9

Search...

itemno itemname dept price onhand

itemno	itemname	dept	price	onhand
2121	Teddy Bear	TY	19.95	55
2222	Building Blocks	TY	27.98	50
2345	Doll House	TY	55.98	2
3333	Basketball	SP	17.99	24
3456	Net/Hoop	SP	27.95	10
*			0	0

```

graph TD
    Main[Main Query Result] --> DeptTY[Dept = TY]
    Main --> DeptSP[Dept = SP]
    Main --> OnHand[On hand < 50]
    Main --> Price[Price < 100]
    DeptTY --> Main
    DeptSP --> Main
    OnHand --> Main
    Price --> Main
    clisp((clisp)) --- Main
    Main --- O1(( ))
    Main --- O2(( ))
    O1 --- Main
    O2 --- Main
  
```

Record: 1 of 5 No Filter Search

ready Type here to search Num Lock SQL

1:37 PM 9/19/2019

inventory : Database- E:\inventory.accdb (Access 2007 - 2016 file format) - Access

SMART Ink

File Home Create External Data Database Tools Help Design Tell me what you want to do

View Run Select Append Update Crosstab Delete Insert Rows Insert Columns Delete Rows Builder Return: Totals Parameters Table Names

Results Query1 Query2 Query3 Query4 Query5 Query6 Query7 Query8

All Access Obj... Search... Tables Queries

inven

Query1 Query2 Query3 Query4 Query5 Query6 Query7 Query8 Query9

SELECT itemno, itemname, dept, price, onhand, onorder
FROM inven
WHERE dept = 'IT' and price > 20 or onhand > 40 or onorder > 50;

```
graph TD; A([dept IT]) --> B([Price > 20]); B --> C([On hand > 40]); C --> D([On order > 50]); D --> E([On or Dept > 50]); E -- Y --> F([?]); E -- N --> G([?]); E -- disp --> H([?]);
```

inventory : Database- E:\inventory.accdb (Access 2007 - 2016 file format) - Access

SMART Ink

File Home Create External Data Database Tools Help Design Tell me what you want to do

View Run Select Make Table Append Update Crosstab Delete Data Definition Insert Rows Insert Columns Show Table Builder Delete Rows Delete Columns Return: Property Sheet Totals Parameters Table Names

Results Query Type Query Setup Show/Hide

All Access Obj... Search... Tables Queries

inven

Query1 Query2 Query3 Query4 Query5 Query6 Query7 Query8 Query9

SELECT itemno, itemname, dept, price, onhand, onorder
FROM inven
WHERE dept = 'TY' and (price > 20 or onhand > 40 or onorder > 50);

TF

display

Ready Num Lock SQL

Type here to search

1:43 PM 9/19/2019

```
graph TD; TF[TF] --> display[display]
```