The final exam will be cumulative! Please also study previous midterm reviews and exams and other material from the beginning of the course. For instance:

Six Steps in the Debugging Process (pg 199 of book)
1) Make sure that you can reproduce the error
2) Determine exactly what the problem is
3) Eliminate "obvious" causes
4) Divide the process, separating out the parts that work from the part that doesn't
5) When you reach a dead end, reassess your information, asking where you may be making wrong assumptions or conclusions, then step through the process again
6) As you work through the process from start to finish, make predictions about what should happen and verify that your predictions are fulfilled

The rest of this review will only cover material from the last midterm.

Chapter 12: Social Implications of IT

1   What is accessibility, in the context of IT?

2   What are some things you can do to increase the accessibility of your webpage?

3   Which of the following aren't considered intellectual property?
- a DVD
- a design for a new car
- a pencil
- a movie
- a description of a brand new algorithm which will break RSA encryption in logarithmic time
- a textbook

4   What is fair use? Give 3 examples of fair use of a copyrighted work.

Chapter 13: The Basics of Spreadsheets

5   G$3 stands for
a) relative column, relative row
b) absolute column, relative row
c) relative column, absolute row
d) absolute column, absolute row

6   Chris has the CIA demographic data in a spreadsheet, and ranks (sorts) by the population column. As soon as the sort is complete, Chris notices that only the population column has changed. What error has Chris made?

7   Say you have the following Excel spreadsheet.

	A	B	C	D	E	F
1	Money earned each month from part-time job					
2		January	February	March		
3	Sue	500	500	360		
4	Joe	600	700	900		
5						
6						
7						
8						
9						

Sheet1 / Sheet2 / Sheet3 /

Give the formulas you would need to do each of the following. Write out EXACTLY and COMPLETELY what you would need to type into the result cell.
a) the sum amount earned by Sue and Joe together in the month of January
b) the total amount earned by Sue for the three months (use the built-in excel function for sum, don't use +)
c) the formula to display the max amount Joe was ever paid in a month
d) the formula to display the word "Joe" if Joe earned more than Sue in February, and "Sue" in all other cases.

Chapter 14 & 15: Database Concepts & Queries

8   What is a database record?

9   In a database, Rows are to Attributes as Records are to
a) Fields
b) Captions
c) Entities
d) Keys

10   What are 1-to-1, 1-to-many, and many-to-many relationships? Give an example of each.

11   Specify the types of relationship for these pairs of entities:

Capital—State
City—State

Niece—Uncle
Recipe—Ingredient
Kitten—Mother

12   One of the primary benefits of a database is that it gives us the tools to eliminate redundancy. What is redundancy and why do we want to minimize it? How do we do this in a relational database?

13   What does the union operation do?

14   Convert the following SQL into English:

SELECT UWStudent.Name, UWStudent.StudentID, Fit100Student.Exam1Grade
FROM (UWStudent INNER JOIN Fit100Students ON UWStudent.StudentID = Fit100Student.StudentID)

15   What is SQL? Give one of its keywords (special words that are reserved for use in the language).

16   What is the difference between a logical database and a physical database? Why should we keep logical and physical databases separate?

17   In setting up the physical database, various problems should be avoided. Give an example of one and describe what the problem is.

18   Suppose we have a table in a relational database named "countries". The table contains the following attributes: Country Name, Continent, Population, Gross Domestic Product. We need to choose a primary key for this table. Which attribute would we select and why?

19   What are the advantages of disadvantages of "flat file" databases versus relational databases?

Chapter 17: Privacy & Digital Security

20   Brian's computer is having problems. Whenever he opens Internet Explorer, it doesn't go to his normal home web page. In addition, there is a nagging search bar in his IE browser that won't go away and he can't find an uninstall option to remove it. Brian's computer science friend takes a look at his network traffic and notices that Brian's computer is sending off a lot of private information to unknown servers on the 'net. What is Brian's computer infected with and what steps should he take to remove and prevent it from happening again?

21   What is a phishing attack? What are 3 strategies that phishers use to get what they want?

Chapter 23: Limits to Computation

22   Explain why in a game like chess, the computer does not explore the whole game tree.

23   What is the set-up for the Turing test?

24   What does it mean for a problem to be intractable?