

REVIEW QUESTIONS 2

1. It is said that file systems exhibit data dependence. Why?
2. What is data independence, and why is it important?
3. Describe the basic features of the relational database model.
4. Explain how the entity relationship (E-R) model helped produce a more structured relational database design environment.
5. Use the scenario described by "A customer can make many payments, but each payment is made by only one customer" as the basis for an entity relationship diagram (ERD) presentation.
6. What are connectivities, and what role do they play in database design?
7. Explain the difference between *data* and *information*.

PROBLEMS 2

Given the file structure shown in figure below, answer Problems 1 and 2.

	PROJECT_CODE	PROJECT_MANAGER	MANAGER_PHONE	MANAGER_ADDRESS	PROJECT_BID_PRICE
►	21-5Z	Holly B. Parker	904-338-3416	3334 Lee Rd., Gainesville, FL 37123	\$16,833,460.00
	25-2D	Jane D. Grant	615-898-9909	218 Clark Blvd., Nashville, TN 36362	\$12,500,000.00
	25-5A	George F. Dorts	615-227-1245	124 River Dr., Franklin, TN 29185	\$32,512,420.00
	25-9T	Holly B. Parker	904-338-3416	3334 Lee Rd., Gainesville, FL 37123	\$21,563,234.00
	27-4Q	George F. Dorts	615-227-1245	124 River Dr., Franklin, TN 29185	\$10,314,545.00
	29-2D	Holly B. Parker	904-338-3416	3334 Lee Rd., Gainesville, FL 37123	\$25,559,999.00
	31-7P	William K. Moor	904-445-2719	216 Morton Rd., Stetson, FL 30155	\$56,850,000.00

1. Using two relational database tables, PROJECT and MANAGER, eliminate the redundancies discovered above (in the previous exercise set, problem 4). Connect the two tables through the appropriate link.
2. Create the relational schema to show how the two database tables in problem 1 are linked.
3. Given the table structure shown in figure below, what problem(s) might you encounter if you deleted building KOM?

	BUILDING_CODE	ROOM_CODE	TEACHER_LNAME	TEACHER_FNAME	TEACHER_INITIAL
►	KOM	204E	Williston	Horace	G
	KOM	123	Cordoza	Maria	L
	LDB	504	Patroski	Donald	J
	KOM	34	Hawkins	Anne	W
	JKP	225B	Risell	James	
	LDB	301	Robertson	Jeanette	P

4. The PYRAID company wants to track each PART used in each specific piece of EQUIPMENT; each PART is bought from a specific SUPPLIER. Using this description, draw the ER model for the PYRAID company database. (*Hint: A piece of equipment is composed of many parts, but each part is used in only one specific piece of equipment. A supplier can supply many parts, but each part has been supplied by only one supplier.*)

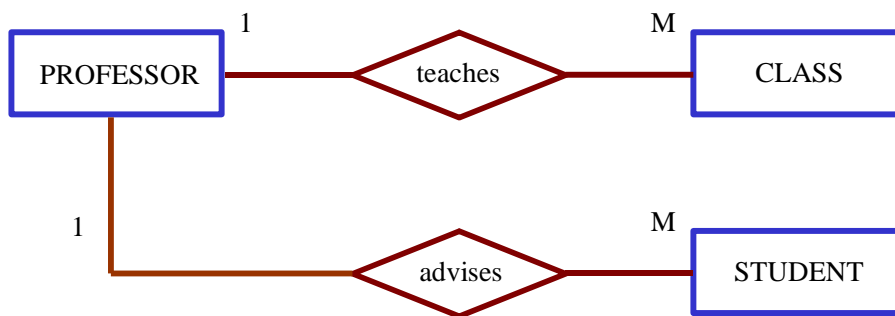
5. United Broke Artists (UBA) is a broker for not so famous painters. UBA maintains a small database to track painters, paintings and galleries. Using PAINTER, PAINTING, and GALLERY, draw the ER model for the UBA database.

(*Hint 1:* A PAINTING is painted by a particular ARTIST, and that painting is exhibited in a particular GALLERY.

Hint 2: A gallery can exhibit many paintings, but each painting can be exhibited in only one gallery. Similarly, a painting is painted by a single painter, but each painter can paint many paintings.)

6. If you decided to convert the ER model in Problem 5 to a relational database:
- What tables would you create, and what would the table components be?
 - How might the (independent) tables be related to one another?

7. Describe the relationships shown in the ERD in the figure below.



8. Describe the relationships shown in the ERD in the figure below.

