

## CPSC 3131 / MISM 4135 - Assignment 1

PROJ_NUM	PROJ_NAME	EMP_NUM	EMP_NAME	JOB_CODE	JOB_CHG_HOUR	PROJ_HOURS	EMP_PHONE
1	Hurricane	101	John D. Newson	EE	85.00	13.3	653-234-3245
1	Hurricane	105	David F. Schwann	CT	60.00	16.2	653-234-1123
1	Hurricane	110	Anne R. Ramoras	CT	60.00	14.3	615-233-6568
2	Coast	101	John D. Newson	EE	85.00	19.8	653-234-3254
2	Coast	108	June H. Sattlemir	EE	85.00	17.5	905-554-7812
3	Satellite	110	Anne R. Ramoras	CT	62.00	11.6	615-233-6568
3	Satellite	105	David F. Schwann	CT	26.00	23.4	653-234-1123
3	Satellite	123	Mary D. Chen	EE	85.00	19.1	615-233-6432
3	Satellite	112	Allecia R. Smith	EE	85.00	20.7	615-878-6879

Figure 1 – File structure for question 1 – 4

Q1. Identify and discuss the serious data redundancy problems exhibited by the file structure shown in Figure 1. (5 points)

Q2. Looking at the EMP\_NAME and EMP\_PHONE contents in Figure 1, what change(s) would you recommend? (3 points)

Q3. Identify the various data sources in the file you examined in Q1. (3 points)

Q4. Given your answer to Q3, what new files should you create to help eliminate the data redundancies found in the file shown in Figure 1? (4 points)

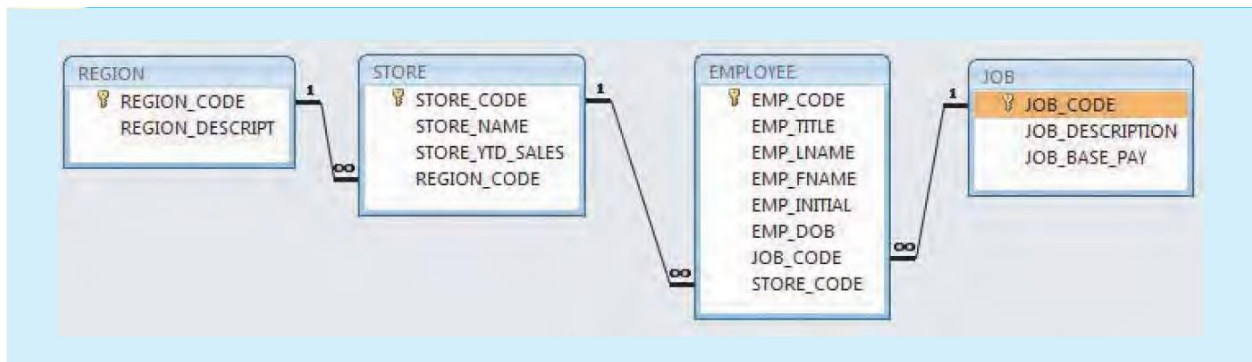


Figure 2 - The DealCo relational diagram

Q5. Refer to the relational diagram for DealCo in Figure 2:

a. Identify each relationship type and write all of the business rules. (3 points)

b. Create the basic Crow's Foot ERD. (2 points)

Q6. Typically, a patient staying in a hospital receives medications that have been ordered by a particular doctor. Because the patient often receives several medications per day, there is a 1:M relationship between PATIENT and ORDER. Similarly, each order can include several medications, creating a 1:M relationship between ORDER and MEDICATION.

a. Identify the business rules for PATIENT, ORDER, and MEDICATION. (3 points)

b. Create a Crow's Foot ERD that depicts a relational database model to capture these business rules. (2 points)

Q7. United Broke Artists (UBA) is a broker for not-so-famous artists. UBA maintains a small database to track painters, paintings, and galleries. A painting is painted by a particular artist, and that painting is exhibited in a particular gallery. 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. Using PAINTER, PAINTING, and GALLERY, in terms of a relational database:

a. What tables would you create, and what would the table components be? (3 points)

b. How might the (independent) tables be related to one another? (2 points)

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