

COMP 3005

Assignment #3

Due: March 12

Instruction

1. This is an individual assignment. Copying is not allowed.
2. For Part 1, you should do it with Oracle-VM.
3. For Parts 2-4, you should not include any attributes not specified in this assignment in the EER diagram. You can use the ER tool [DIA](#) to draw the ER diagram.
4. Submit your assignment as a single word/pdf document on culearn system.

Part 1. SQL Queries (60 Marks)

Use Oracle-VM SQL to express the following queries based on the suppliers-and-parts database created in Assignment #1. In the document that you submit, you should have the question with its number, SQL query, and query result generated by Oracle-VM for each question. Each question is 4 marks.

Suppliers

<u>S#</u>	SNAME	STATUS	CITY
S1	Smith	20	London
S2	Jones	30	Paris
S3	Blake	30	Paris
S4	Clark	20	London
S5	Adams	30	Athens

Parts

<u>P#</u>	PNAME	COLOR	WEIGHT	CITY
P1	Nut	Red	12.0	London
P2	Bolt	Green	17.0	Paris
P3	Screw	Blue	17.0	Oslo
P4	Screw	Red	14.0	London
P5	Cam	Blue	12.0	Paris
P6	Cog	Red	19.0	London

SP

<u>S#</u>	<u>P#</u>	QTY
S1	P1	300
S1	P2	200
S1	P3	400
S1	P4	200
S1	P5	100
S1	P6	100
S2	P1	300
S2	P2	400
S3	P2	200
S4	P2	200
S4	P3	300
S4	P4	400
S4	P5	500

1. Get supplier names for suppliers who supply green parts using EXISTS.
2. Get part names for parts supplied by Smith.
3. Get part names and the quantity of parts supplied using FLAT query.
4. Get part names for parts supplied with quantity less than 300 using EXISTS
5. Get part names for parts supplied by Smith or Jones WITHOUT DUPLICATES using UNION.
6. Get supplier name/part name pairs such that the indicated supplier does not supply the indicated part.
7. Get supplier names for suppliers who do not supply any parts.
8. Get part names for parts supplied by more than one supplier without using grouping and aggregate operation.
9. Get supplier names for suppliers who supply more than one part using grouping and aggregate operations.
10. Get supplier names for suppliers who supply all parts.
11. Get supplier names for suppliers who supply all parts except P1, P3, and P6 .
12. Get supplier names for suppliers who supply all parts supplied by Blake without using NOT EXISTS (B MINUS A).
13. Get supplier names for suppliers who supply all parts supplied by Blake using NOT EXISTS (B MINUS A).
14. Get complete information of each supplier such that when the supplier supplies a part, list part detail and when the supplier does not supply any part, just list the supplier information.
15. Get supplier names and total quantity supplied. If the supplier does not supply any parts, leave it null.

Part 2 (10 marks)

Publication enterprises include books, authors and publishers. Authors are people with normal attributes, like name, date of birth, but in addition they wrote one or more books. A book has the usual attributes, such as title, ISBN, publication date. Publishers are companies that publish books. They have an address, phone numbers (typically more than one), name. A book can be written by more than one author, but it can be published by only one publisher. An author can write more than one book and to be called an author one, of course, has to write at least one book. Design an EER diagram that describes this database application with all relevant constraints represented using *Method 3*. (10 marks)

Part 3 (10 marks)

Automotive enterprises involve cars, car manufacturers, and cardealerships. Car Manufacturers are companies that build cars and they have attributes such as name, headquarters address, country of incorporation. Cars have attributes such as make (e.g., GM, Mercedes, Chrysler), model, kind of car (e.g., sedan, SUV, wagon). A dealership sells cars. It has a name, address, and telephone numbers (typically more than one.) A manufacturer may make several different kinds and models of cars (as, for example, the manufacturer Mercedes/Chrysler does). A car is made by a single manufacturer. A dealer can sell cars from several different manufacturers but does not have to sell all the cars from a single manufacturer. For example, Nardy Honda-Pontiac in Smithtown sells Pontiacs from manufacturer GM and Hondas from manufacturer

Honda, but it doesn't sell Chevrolets that are also made by GM. A manufacturer can make a car (such as a racing car) that is not sold through dealerships. Design an EER diagram that describes this database application with all relevant constraints represented using *Method 2*.

Part 4 (10 marks)

Movie enterprises include movies, actors, and studios that produce movies. Actors are people with normal attributes, like Id, name, date of birth. Actors play in movies. A movie has the usual attributes: title, release date, director. Studios are companies. A company has an address, phone numbers (typically more than one), name. Studios have additional attributes, such as the artistic director. A movie has at least one actor, and exactly one studio makes each particular movie. Every actor played in at least one movie. Some studios may be brand new and had no time to make any movies yet. Design an EER diagram that describes this database application with all relevant constraints represented using *Method 2*.