COMP 3005
Assignment #1
Due: January 26

Instruction

1. You should do the assignments independently. Copying is not allowed
2. You need to download and install Oracle VM for this assignment. Detail about how to install and use Oracle VM can be found in the file Oracle-VM.do.
3. Submit your assignment as a word/PDF file on culearn.
4. For Parts 2 and 3, you should test your statements on Oracle VM and take necessary screenshot to demonstrate your statements executed successfully and finally use "select * from *table_name*" to display the tables you created. Put the screenshots into the corresponding parts in your word/PDF file.
5. For the Sailer table, Lastname is your last name. If you put something other than your last name, you will lose 10 marks.

Part 1 Concepts (30 marks)

Explain the following terms based on the definitions given in the lecture notes. Different answers found online will be marked wrong.

1. Mini World
2. Data Model
3. Relational Data Model
4. Database
5. Database Management System
6. Database System
7. Database Schema
8. Atomic Value
9. Attribute
10. Tuple
11. Domain
12. Relation
13. Key
14. Primary Key
15. Foreign Key
16. DBA
17. End User
18. Entity Integrity Rule
19. Logical Data Independence
20. Query Language (QL)

Part 2 (15 marks)

Create a relation called Dependent that represents the dependence between entities. The table should have two attributes called *entity* and *dependent*, where entity is the primary key of the relation and dependent is a foreign key that references entity. Then insert three tuples representing the following information into this table:

1. E1 is dependent on E2
2. E2 is dependent on E3
3. E3 is dependent on E1

Note that this problem is similar to chicken-egg problem but only involves one relation. Submit proper DDL and DML statements in sequence that can accomplish this with Oracle-VM and then the QL statement to display the result table.

Part 3 (35 marks)

Create the following Sailer-Boat database. You should properly define primary keys and foreign keys with 8 additional unique integrity constraints of different kinds (checking can be used more than once). Submit proper DDL and DML statements in sequence with and the QL statement to display the result table.

Sailer

S#	Name	Age
S1	Smith	20
S2	Jones	30
S3	Blake	25
S4	*Lastname*	20
S5	Adams	30

Boat

B#	Name	Color
B1	Freedom	Blue
B2	Paradise	Green
B3	Miracle	Red
B4	Splendor	Yellow

Reservation

S#	B#	Day
S1	B1	1-Jan-15
S1	B2	2-Jan-16
S1	B3	3-Feb-17
S1	B4	4-Feb-18
S2	B1	5-Mar-16
S2	B2	6-Mar-17
S2	B3	7-Apr-18
S3	B1	8-May-17
S3	B2	9-Jul-17
S4	B1	10-Sep-17