COMP 3005
Assignment #6
Due: Dec 6

Instruction

1. This is an individual assignment. Copying is not allowed.
2. Do all parts with Oracle VM. For each part, you should test your program carefully, and take screenshots of the final compilation and execution results. If the program cannot be compiled successfully, then you will lose 50%. Additional mark may be deducted based on what is in your program.
3. Submit a single word/pdf document on culearn that contains the tested source program and execution results for each part.

Part 1 (10 marks)

Given the following Bank-Customer database with three tables that represent banks, customers, and customers' accounts in banks. The primary keys are underlined and foreign keys are obvious. Write an Embedded SQL program that uses Dynamic SQL method 1 to create the database. You can hard code all create table statements in the program using the execute immediate statement.

Bank

B#	Name	City
B1	England	London
B2	Deutsche	Berlin
B3	Royal	Toronto
B4	France	Paris

Customer

C#	Name	Age	City
C1	Adams	20	London
C2	Blake	30	Paris
C3	Clark	25	Paris
C4	Jones	20	London
C5	Smith	30	Toronto

Account

C#	B#	Balance
C1	B1	1000
C1	B2	2000
C1	B3	3000
C1	B4	4000
C2	B1	2000
C2	B2	3000
C2	B3	4000
C3	B1	3000
C3	B2	4000
C4	B1	4000
C4	B2	5000

Part 2 (10 marks)

Write an Embedded SQL program that uses Dynamic SQL method 2 to insert all tuples into the database. It should prompt the user to choose a table and then prompt the user with the attribute names and accept values for each tuple.

Part 3 (10 marks)
Write an Embedded SQL program that uses Dynamic SQL method 3 to list all customer rows, in customer number order. Each customer row should be immediately followed in the listing by all bank rows for banks the customer has account in, in bank number order. Customers who has no account should still be listed.

Part 4 (10 marks)
Write a PL/SQL program to redo Part 3. Your program should contain a cursor for customer and a parameterized cursor for bank.

Part 5 (20 marks)
Use SQL Data Definition Language to create the following nested relation Department and then use SQL Data Manipulation Language to populate Department.

Professor

Name	Hobbies	Supervision		
		Kind	Students	
			Name	Hobbies
Henry	Chess Skiing	Ph.D	Young	Skiing Soccer
		M.Sc	James	Boxing
			Adams	Chess Skiing
David	Hiking Travel	M.Sc	Scott	Hiking Travel

Part 6 (20 marks)
Use SQL Query Language to express the following queries. Each query is 3 marks and the result is 2 marks

1. List all students (both master and PhD) as a single set of names.
2. List professor and their students in a nested relation.
3. List professor and students in a nested relation such that they have the same hobby.
4. List the hobbies that Henry's students have but Henry does not have.