Institute of Technology Tralee

Databases Concepts

Continuous Assessment December 2013
Duration: 1 Hour 50 mins

Before you start:

- Ensure that your table space is empty

- Create a folder on your C:\ drive named using the format **GROUP_Surname_Initial_Ass03**
  For example: GD_Smith_J_Ass03 or MM_Smith_J_Ass03 or SD_Smith_J_Ass03

- Save all of your work in this folder, this will be collected at the end of the assessment.

- Copy the file ***ToolData.sql*** from X:\...Database Concepts\Scripts into this folder.

- You are NOT PERMITTED to use the Internet or course material during the assessment

1. **[50 Marks]**
   Using ORACLE SqlDeveloper, create an ORACLE script ***ToolHire.sql*** (in your folder on the C:\) which creates the database described by the following database schema:

   Schema: ToolSYS

   Relation: ToolTypes
   Attributes:
    Category Char (1)
    Description char(25) NOT NULL
    Daily_Rate Numeric(5,2) NOT NULL
    Primary Key Category

   Relation: Tools
   Attributes:
    ToolID numeric(3)
    Category char(1)
    Description char(30)
    Primary Key ToolID

   Relation: Customers
   Attributes:
    CustID Numeric(5)
    Fname char(20) NOT NULL
    Sname char (20) NOT NULL
    Phone char(14)
    Primary Key CustID

   Relation: ToolHire
   Attributes:
    HireID Numeric(5)
    HireDate Date
    AmountPaid numeric(7,2)
    CustID numeric(5)
    Primary Key HireID
    Foreign Key CustId References Customers

   Relation: HireItems
   Attributes:
    HireID Numeric(5)
    ToolID numeric(3)
    Days numeric(2)
    HireCost numeric(5,2)
    Status char(1)
    Primary Key HireID, ToolId
    Foreign Key ToolID References Tools

2. [5 Marks] Run the script ***ToolData.sql*** to populate the tables you have created.

P.T.O.

3. **[20 Marks]** Create a script *ToolAmend.sql* which, when executed, will make the following amendments to the database created in part 1:

    - Add the column *Mobile*(char 14) to the table Customers.

    - Change the size of the attribute *Sname* in the table Customers to 35

    - Add a foreign key constraint *fk_Tool_Types* to the table *Tools* on the attribute *Category* which references the table *ToolTypes*.

    - Add a column *PenaltyRate (Numeric 5,2)* to the table ToolTypes with a check constraint for amount > 0.

4. **[5 Marks]** Create a script *Penalty.sql* which assigns a Penalty rate to each tool category as shown in the table below:

Category	PenaltyRate
A	40.00
B	35.00
C	100.00
D	60.00
E	100.00

5. **[20 Marks] Create an Oracle script called Queries.sql.**
    Save the queries you write in this section in this script file.

    Assuming all dates are of the format DD–MMM-YYYY, write ORACLE queries to:

    1. List ToolId and the number of times the tool has been hired. Display in order of toolId.

    2. Show toolID, tool description, Category and Daily_Rate for all tools.

    3. For each tool hire, list the items hired. Display in order of CustID and within that HireDate

    4. Lst the tools which have never been hired. Display in order of tool description.

6. **Ensure that all of the files you must submit have saved correctly to your folder on the C:\ drive. Penalties will apply if not. Give the folder to the examiner before you leave the assessment**