**DDP: ITM**

**CA3 : 40%**

**N.B. This is an individual assessment and is open-book.**

**This means you are allowed to have access to class notes or books.**

**HOWEVER any student caught looking at or copying another student’s work will be asked to leave the lab immediately.**

**You will have 1.40 hrs to complete this assessment.**

**Be sure to save your work at regular intervals.**

**It is YOUR responsibility to upload your work correctly. Work not uploaded or wrong work uploaded will result in a failing grade.**

1. Go to moodle and save the .sql file called **BinTables.sql**. Open this file, copy the script into SQL Developer and execute it. Ensure all the tables successfully created and that they all contain data.
2. Dublin Waste Management have adopted a new bin management scheme. In the new scheme there are three bin types, Black for rubbish, Green for Recycling and Brown for food waste. Each new bin type has an associated collection charge. The charges for the bin collections are based on a 20kg base weight and a per kilo charge for every kilo over the 20kg. Dublin Waste Management want to be able to update the bin charges in the new system easily and they have employed you to write a PL/SQL procedure to achieve this.

You are required to write this PL/SQL procedure so that it achieves the following:

* Write a Procedure called **UpdateBinCharge**() which will accept two parameters, a **Bin Type** and a new **Per Kilo Charge**.
* For all the rows affected by the Bin Type update the per kilo charge to the new per kilo charge passed into the procedure.
* The changing of the per kilo charge has implications too for the **20Kg price** of the bin collection. The 20 kg price is calculated by multiplying the Per Kilo Charge by 20.
* The procedure must also update the 20kg price for the bin type in the table.
* Finally details about the changes made to the **Bin** table need to be recorded in the **BinChangeLog** Table.
* This table should record a unique id (use the sequence created in the CA2.sql file), a description of the changes, the date the changes occurred (use sysdate), and the total number of rows affected by the change (use a cursor function).

1. You also need to write the PL/SQL Block to test the procedure.
2. Finally the Waste Management company would like a mechanism for automatically catching problems in the script. Explain how a trigger might help them achieve this, be sure an include an sample trigger that might be of benefit to Dublin Waste Management.

Dublin Waste Management can use a trigger to check that the new price per kilo is not a negative number or more than a specified value.

Please note marks will be awarded for the relevant PL/SQL Script. It is essential to save the script as you work through the CA and upload the file with the script at the end.

You are to upload a single file, with your name and number on it, to **CA3 ITM: Upload** on moodle.