MASY1-GC-3525 Advanced Database Applications

PRACTICAL FINAL EXAM (20 points)

Professor Bacchus   **October 13th 2018**

Part 1 (12 Points) - Using SAT_Scores.csv

1. Review data file **SAT_Scores.csv**   **4 points**
   a. Create a Stage table
   b. Create normalized tables to store the data (hint: 3 tables)
   c. Create a package that will load the data from Stage to the normalized tables, with one public p_ process procedure
   Deliverables: DDL of the tables, and the package script

2. Process the data file   **4 points**
   a. Create a sh script to
      i. to load the data via sql/loader
      ii. call you p_process procedure in the package with sqlplus
   b. Execute the script
   c. Export "select * from each_table" (should be 4 tabs in Excel)
   Deliverables: sh script, control file & sql file plus the output of all tables in one excel file

3. **Write 3 views**   **4 points**
   a. Create a view using the normalized tables to produce the original file
   b. Create a view that shows the top-5 best schools
   c. Create another view that shows some other valuable information
   Deliverables: View statements, plus output for each view in one excel file

Part 2 (8 Points) – Using hr_employee table from Week 1

1. Write an <u>anonymous block</u> that swap the salaries for employees with highest and lowest salaries (hint: 1 select and 2 updates)   **2 points**
2. Write an <u>anonymous block</u> that will increase salaries for all employees based on their years of experience (over 30 years – 20% increase, 20 to 29 years' experience – 10%, all others get 5% raise (hint: Explicit cursor , for loop & if clause)   **2 points**
3. Create a <u>function</u> that returns the employee with the highest salary   **1 point**
4. Create a <u>procedure</u> that *returns* the employee with the lowest salary   **1 point**
5. Create a <u>function</u> that returns the manager's full name of the employee by ID   **1 point**
6. Create a <u>procedure</u> that prints all employees who report to a manager By ID   **1 point**
   Deliverables: Complete code and results

Note: All code must have embedded comments (algorithm) for each logical step.
All Objects (tables/views/packages) MUST be prefixed with {your Initial}_SAT_*
All code must have proper error handling (correct exceptions)