**CSE216 July 2022**

**Practice Problems for Triggers**

**Task 1:** Create a trigger that will be executed **after** an insertion of a record in student table and display the following messages:

First line: "The CGPA of Student name \_\_\_\_\_ has been inserted"

Second line: "The CGPA is \_\_\_\_"

Test the trigger by inserting the sample data given in the book.

**Task 2**: Create a trigger that will be executed **before** an insertion of a record in student table and display the following messages:

First line: "The CGPA of Student name \_\_\_\_\_ will be inserted"

Second line: "The CGPA will be \_\_\_\_"

Test the trigger by inserting the sample data given in the book.

**Task 3-1:** Create a trigger that will be executed **before** an insertion or deletion of a record in student table and display the following message:

"Record has been inserted or deleted"

Test the trigger by inserting the sample data given in the book and deleting the same records.

**Task 3-2**: Create a trigger that will be executed **after** an insertion or deletion of a record in student table and display the following message:

"Record has been inserted or deleted"

Test the trigger by inserting the sample data given in the book and deleting the same records.

**Task 4**: Create a trigger that will be executed **after** an update in CGPA of a record in student table and display the following message:

"CGPA has been updated"

Insert 4 records as follows:

Abid 3.25, Zahid 3.5, Karim 3.7, Sohel 3.8

Test the trigger by increasing the CGPA of the students by 10% for the students with CGPA <= 3.7.

**Task 5**: Create a trigger that will be executed **before** an update in CGPA of a record in student table and display the following message:

"CGPA of student ------ has been updated with new CGPA ----"

"The previous CGPA of the student was ------ "

Test the trigger by decreasing the CGPA of the students by 10% for the students with CGPA >= 3.5.

**Task 6:** Write a PL/SQL trigger LOG\_CGPA\_UPDATE. This trigger will log all updates done on the CGPA column of STUDENTS table. The trigger will save current user’s name, current system date, previous CGPA and Changed CGPA in a log table named LOG\_TABLE\_CGPA\_UPDATE.

**Task 7**: Write a PL/SQL trigger BACKUP\_MANAGEMENT. This trigger will save all records that are deleted from the STUDENTS table into a backup table named STUDENTS\_DELETED.

**Task 8**: Write a trigger that will save a student records in a table named LOW\_CGPA\_STUDENTS

which contain only one column to store student’s names. The trigger will work before an updateoperation or an insert operation. Whenever the update operation results in a CGPA value less than 2.0, the trigger will be fired and the trigger will save the students name in the

LOW\_CGPA\_STUDENTS table. Similarly, when an insert operation inserts a new row with

CGPA less than 2.0, the corresponding row must be saved in the LOW\_CGPA\_STUDENTS

table.