Chrissie Raj Bezzam
G01465544

1) Practice Problems: Data Manipulation and Transaction Control

- Create a new table containing at least four columns of four different data types (CHAR, VARCHAR2, NUMBER, DATE). Name the table your_first_name_your_last_name (substitute your_first_name with your first name and your_last_name with your last name).
- Insert a new record into the table created in Problem 1. When inserting a record, provide values for all columns. Use the default format for the date. Use the SELECT * FROM your_table_name; command to display the content of the table (make sure to substitute your_table_name with the actual name of your table).
- Insert a new record into the table created in Problem 1. When inserting a record, provide values for selected columns only. Use the default format for the date. Use the SELECT * FROM your_table_name; command to display the content of the table (make sure to substitute your_table_name with the actual name of your table).
- Update multiple values in the table created in Problem 1. Use the SELECT * FROM your_table_name; command to display the content of the table (make sure to substitute your_table_name with the actual name of your table).
- Delete one specific row from the table created in Problem 1. Use the SELECT * FROM your_table_name; command to display the content of the table (make sure to substitute your_table_name with the actual name of your table).
- Use the SELECT * FROM your_table_name; command to display the content of the table (make sure to substitute your_table_name with the actual name of your table). Delete one specific row from the table created in Problem 1. Use the SELECT * FROM your_table_name; command to display the content of the table (make sure to substitute your_table_name with the actual name of your table). Execute a command that undoes the deletion. Use the SELECT * FROM your_table_name; command to display the content of the table (make sure to substitute your_table_name with the actual name of your table). **Note**: In Oracle Live SQL, you need to execute all the commands together as a single transaction to make ROLLBACK work. Since Oracle Live SQL auto commits transactions, you can't rollback after a command is executed (for instance, you can't first delete a record and then use ROLLBACK to reverse the changes after DELETE was executed). To see how ROLLBACK works in Oracle Live SQL, you need to include ROLLBACK within your transaction as suggested above.
- Save the changes permanently to the database.
- Create a script using substitution variables that allows a user to set a new value for one of the values in the table created in Problem 1 based on its PK value. Skip this problem if you use Oracle Live SQL (it does not support substitution variables). Note: Some of the features and SQL commands that we are learning in class might not be fully supported in Oracle LiveSQL. If you use SQLPlus, substitution variables should work. If you use Oracle Live SQL, either answer this question by following the studied concepts without testing it, or skip it.
- In the table created in Problem 1, find a column that contains numerical values and perform a meaningful arithmetic operation on data. If there is no such column, add a new column. Explain in a complete, coherent sentence what the query is intended to do.
- Delete the table created in Problem 1.

Statement 40

```
CREATE TABLE Chrissie_Raj (
    student_id NUMBER PRIMARY KEY,
    name VARCHAR2(50),
    description CHAR(100),
    g_no NUMBER,
    created_at DATE
)
```

Table created.

Statement 41

```
INSERT INTO Chrissie_Raj (student_id, name, description, g_no, created_at)
VALUES (1, 'Chrissie Raj', 'Doing MS at George Mason University', 1465544, SYSDATE)
```

1 row(s) inserted.

Statement 42

```
INSERT INTO Chrissie_Raj (student_id, name, description, g_no, created_at)
VALUES (2, 'Venkatesh Chakravathi', 'Enrolled in AIT 524 Fall 2024', 1465545, SYSDATE)
```

1 row(s) inserted.

Statement 43

```
INSERT INTO Chrissie_Raj (student_id, name, description, g_no, created_at)
VALUES (3, 'John Doe', 'Studying Data Science at GMU', 14655444, SYSDATE)
```

1 row(s) inserted.

Statement 44

```
INSERT INTO Chrissie_Raj (student_id, name, description, g_no, created_at)
VALUES (4, 'Jane Smith', 'Specializing in AI and Machine Learning', 14655445, SYSDATE)
```

1 row(s) inserted.

Statement 45

```
SELECT * FROM Chrissie_Raj
```

STUDENT_ID	NAME	DESCRIPTION	G_NO	CREATED_AT
1	Chrissie Raj	Doing MS at George Mason University	1465544	20-NOV-24
2	Venkatesh Chakravathi	Enrolled in AIT 524 Fall 2024	1465545	20-NOV-24
3	John Doe	Studying Data Science at GMU	14655444	20-NOV-24
4	Jane Smith	Specializing in AI and Machine Learning	14655445	20-NOV-24

Download CSV

4 rows selected.

Statement 46

```
BEGIN
   EXECUTE IMMEDIATE 'DROP TABLE Chrissie_Raj';
EXCEPTION
   WHEN OTHERS THEN
      IF SQLCODE != -942 THEN  -- ORA-00942: Table does not exist
         RAISE;
      END IF;
END;
```

Statement processed.

Statement 47

```
CREATE TABLE Chrissie_Raj (
    student_id NUMBER PRIMARY KEY,
```

Statement 47

```
CREATE TABLE Chrissie_Raj (
    student_id NUMBER PRIMARY KEY,
    name VARCHAR2(50),
    description CHAR(100),
    enrollment_date DATE
)
```

Table created.

Statement 48

```
INSERT INTO Chrissie_Raj (student_id, name, description, enrollment_date)
VALUES (1, 'Chrissie Raj', 'Studying MS at George Mason University', SYSDATE)
```

1 row(s) inserted.

Statement 49

```
SELECT * FROM Chrissie_Raj
```

STUDENT_ID	NAME	DESCRIPTION	ENROLLMENT_DATE
1	Chrissie Raj	Studying MS at George Mason University	20-NOV-24

Download CSV

Statement 50

```
INSERT INTO Chrissie_Raj (student_id, name, enrollment_date)
VALUES (2, 'Venky Chakravathi', SYSDATE)
```

1 row(s) inserted.

Statement 59

```
INSERT INTO Chrissie_Raj (student_id, name, description, enrollment_date)
VALUES (2, 'Venkatesh Rakurthi', 'Studying MS at George Mason University', SYSDATE)
```

1 row(s) inserted.

Statement 60

```
SELECT * FROM Chrissie_Raj
```

STUDENT_ID	NAME	DESCRIPTION	ENROLLMENT_DATE
1	Chrissie Raj	Studying MS at George Mason University	20-NOV-24
2	Venkatesh Rakurthi	Studying MS at George Mason University	20-NOV-24

Download CSV

2 rows selected.

Statement 61

```
UPDATE Chrissie_Raj
SET description = 'Graduated from GMU in 2024', enrollment_date = TO_DATE('2025-12-25', 'YYYY-MM-DD')
WHERE student_id = 1
```

1 row(s) updated.

Statement 62

```
SELECT * FROM Chrissie_Raj
```

STUDENT_ID	NAME	DESCRIPTION	ENROLLMENT_DATE

STUDENT_ID	NAME	DESCRIPTION	ENROLLMENT_DATE
1	Chrissie Raj	Graduated from GMU in 2024	25-DEC-25
2	Venkatesh Rakurthi	Studying MS at George Mason University	20-NOV-24

Download CSV

2 rows selected.

Statement 63

```
UPDATE Chrissie_Raj
SET description = 'Graduated from GMU in 2025', enrollment_date = TO_DATE('2025-12-25', 'YYYY-MM-DD')
WHERE student_id = 1
```

1 row(s) updated.

Statement 64

```
SELECT * FROM Chrissie_Raj
```

STUDENT_ID	NAME	DESCRIPTION	ENROLLMENT_DATE
1	Chrissie Raj	Graduated from GMU in 2025	25-DEC-25
2	Venkatesh Rakurthi	Studying MS at George Mason University	20-NOV-24

Download CSV

2 rows selected.

Statement 65

Statement 65

```
DELETE FROM Chrissie_Raj
WHERE student_id = 2
```

1 row(s) deleted.

Statement 66

```
SELECT * FROM Chrissie_Raj
```

STUDENT_ID	NAME	DESCRIPTION	ENROLLMENT_DATE
1	Chrissie Raj	Graduated from GMU in 2025	25-DEC-25

Download CSV

Statement 67

```
DELETE FROM Chrissie_Raj
WHERE student_id = 1
```

1 row(s) deleted.

Statement 68

```
ROLLBACK
```

Statement processed.

Statement 69

```
SELECT * FROM Chrissie_Raj
```

Statement 69

```
SELECT * FROM Chrissie_Raj
```

STUDENT_ID	NAME	DESCRIPTION	ENROLLMENT_DATE
1	Chrissie Raj	Graduated from GMU in 2025	25-DEC-25

Download CSV

Statement 70

```
COMMIT
```

Statement processed.

Statement 71

```
UPDATE Chrissie_Raj
SET student_id = student_id + 100
WHERE student_id = 1
```

1 row(s) updated.

Statement 72

```
DROP TABLE Chrissie_Raj
```

Table dropped.