

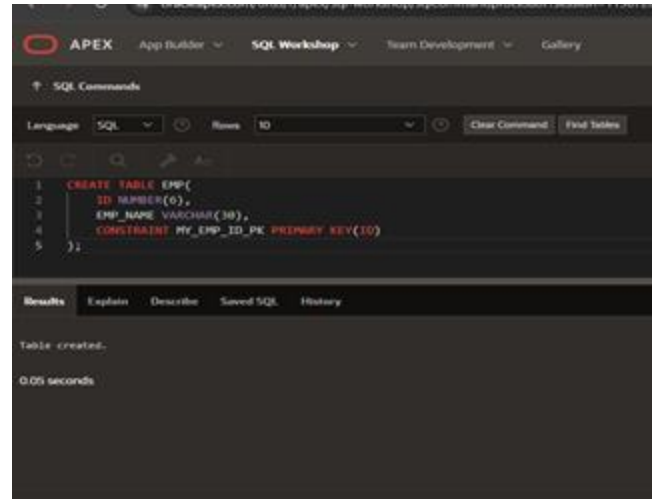
DATABASE MANAGEMENT SYSTEM

CS23332

EXERCISE 9

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1. Add a table-level PRIMARY KEY constraint to the EMP table on the ID column. The constraint should be named at creation. Name the constraint my_emp_id_pk.

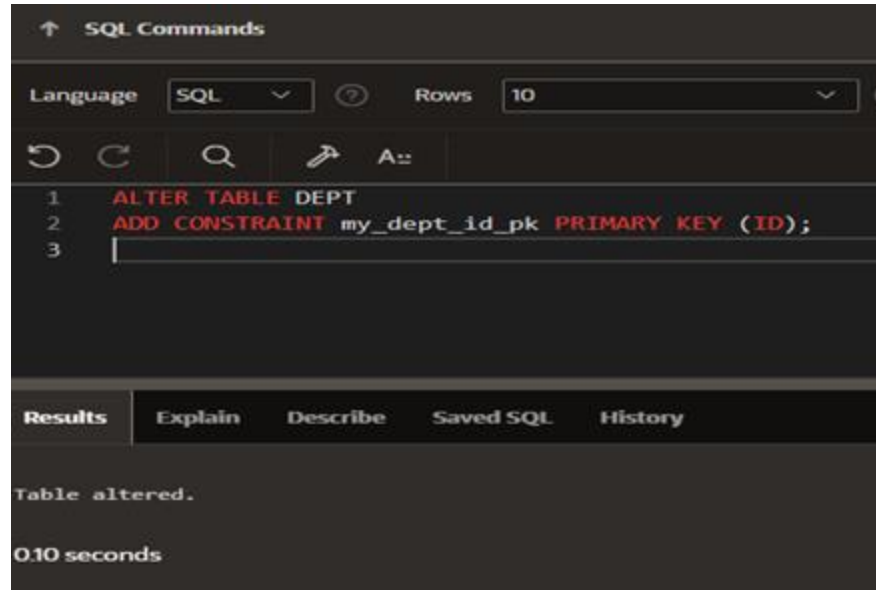


The screenshot shows the Oracle APEX SQL Workshop interface. The top navigation bar includes 'APEX', 'App Builder', 'SQL Workshop', 'Team Development', and 'Gallery'. The 'SQL Commands' section is active, showing a list of commands with '10' selected. The SQL editor contains the following code:

```
1 CREATE TABLE EMP(  
2   ID NUMBER(4),  
3   EMP_NAME VARCHAR(30),  
4   CONSTRAINT MY_EMP_ID_PK PRIMARY KEY(ID)  
5 );
```

Below the editor, the 'Results' tab is selected, displaying the message 'Table created.' and the execution time '0.05 seconds'.

2. Create a PRIMARY KEY constraint to the DEPT table using the ID column. The constraint should be named at creation. Name the constraint my_dept_id_pk.

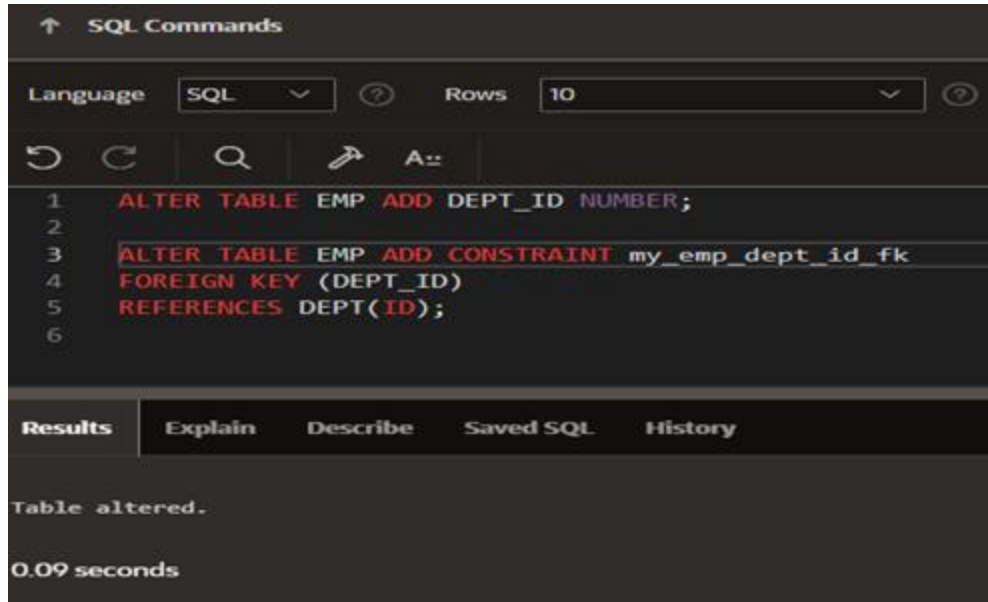


The screenshot shows a SQL command window with a dark theme. At the top, it says "SQL Commands". Below that, there are settings for "Language" (set to "SQL") and "Rows" (set to "10"). A toolbar contains icons for undo, redo, search, and a command prompt icon. The main area displays the following SQL command:

```
1 ALTER TABLE DEPT
2 ADD CONSTRAINT my_dept_id_pk PRIMARY KEY (ID);
3
```

Below the command area, there are tabs for "Results", "Explain", "Describe", "Saved SQL", and "History". The "Results" tab is selected, showing the message "Table altered." and the execution time "0.10 seconds".

3. Add a column DEPT_ID to the EMP table. Add a foreign key reference on the EMP table that ensures that the employee is not assigned to nonexistent department. Name the constraint my_emp_dept_id_fk.



The screenshot shows a SQL command window with a dark theme. At the top, it says "SQL Commands". Below that, there are controls for "Language" (set to "SQL") and "Rows" (set to "10"). There are also icons for undo, redo, search, and a keyboard shortcut "Alt+=". The main area contains two SQL statements:
1. `ALTER TABLE EMP ADD DEPT_ID NUMBER;`
2. `ALTER TABLE EMP ADD CONSTRAINT my_emp_dept_id_fk`
3. `FOREIGN KEY (DEPT_ID)`
4. `REFERENCES DEPT(ID);`
5.
6. Below the statements, there are tabs for "Results", "Explain", "Describe", "Saved SQL", and "History". The "Results" tab is selected and shows the message "Table altered." and the execution time "0.09 seconds".

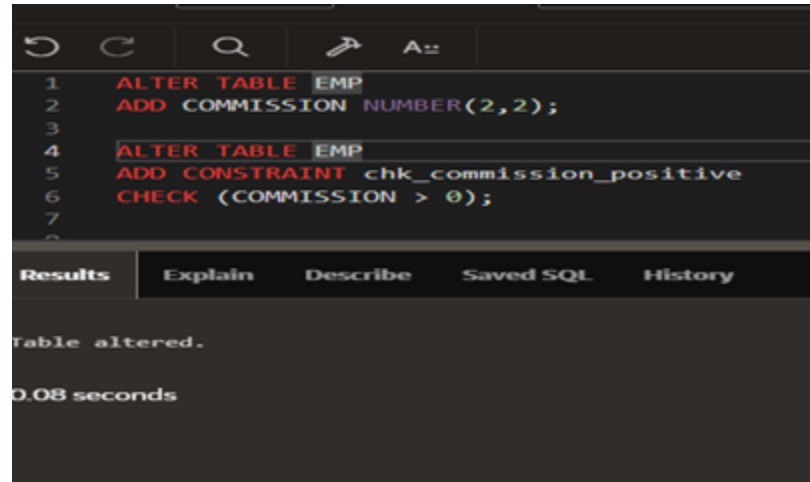
```
1 ALTER TABLE EMP ADD DEPT_ID NUMBER;
2
3 ALTER TABLE EMP ADD CONSTRAINT my_emp_dept_id_fk
4 FOREIGN KEY (DEPT_ID)
5 REFERENCES DEPT(ID);
6
```

Results Explain Describe Saved SQL History

Table altered.

0.09 seconds

4. Modify the EMP table. Add a COMMISSION column of NUMBER data , precision 2,scale 2. Add a constraint to the commission column that ensures that a commission value is greater than zero.



```
1 ALTER TABLE EMP
2 ADD COMMISSION NUMBER(2,2);
3
4 ALTER TABLE EMP
5 ADD CONSTRAINT chk_commission_positive
6 CHECK (COMMISSION > 0);
7
```

Results Explain Describe Saved SQL History

Table altered.

0.08 seconds