

Database Foundations 6-4 :

Defining Data Manipulation Practices

Exercise 1: Inserting Rows in Tables Overview You will insert rows into the tables created for the Academic Database. Assumptions The tables have been created for the Academic Database (based on Practice 6-3).

1. Insert rows into the tables created for the Academic Database based on the following tables:

A:

The screenshot shows the APEX SQL Workshop interface. The SQL Commands tab is active, displaying the following SQL script:

```
1 CREATE TABLE ACADEMIC_SESSIONS(id NUMBER(10),name VARCHAR(30));
2 INSERT INTO ACADEMIC_SESSIONS VALUES(100,'SPRING SESSION');
3 INSERT INTO ACADEMIC_SESSIONS VALUES(200,'FALL SESSION');
4 INSERT INTO ACADEMIC_SESSIONS VALUES(300,'SUMMER SESSION');
5 SELECT * FROM ACADEMIC_SESSIONS;
6
```

The Results tab shows the output of the SQL script:

ID	NAME
200	FALL SESSION
100	SPRING SESSION
300	SUMMER SESSION

3 rows returned in 0.01 seconds

B:

The screenshot shows the APEX SQL Workshop interface. The SQL Commands tab is active, displaying the following SQL script:

```
7 CREATE TABLE AD_DEPARTMENTS(id NUMBER(10),name VARCHAR(25),head VARCHAR(25));
8 INSERT INTO AD_DEPARTMENTS VALUES(10,'ACCOUNTING','MARK SMITH');
9 INSERT INTO AD_DEPARTMENTS VALUES(20,'BIOLOGY','DAVE GOLD');
10 INSERT INTO AD_DEPARTMENTS VALUES(30,'COMPUTER SCIENCE','LINDA BROWN');
11 INSERT INTO AD_DEPARTMENTS VALUES(40,'LITERATURE','ANITA TAYLOR');
12 SELECT * FROM AD_DEPARTMENTS;
13
14
```

The Results tab shows the output of the SQL script:

ID	NAME	HEAD
40	LITERATURE	ANITA TAYLOR
30	COMPUTER SCIENCE	LINDA BROWN
10	ACCOUNTING	MARK SMITH
20	BIOLOGY	DAVE GOLD

4 rows returned in 0.01 seconds

C:

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SQL Commands

Language SQL Rows 10 Clear Command Find Tables Save Run

```
14 CREATE TABLE PARENT_INFO (ID NUMBER(10), PARENT1_FN VARCHAR(10), PARENT1_LN VARCHAR(20), PARENT2_FN VARCHAR(20), PARENT2_LN VARCHAR(20));
15 INSERT INTO PARENT_INFO VALUES (600, 'NEIL', 'SMITH', 'DORIS', 'SMITH');
16 INSERT INTO PARENT_INFO VALUES (610, 'WILLIAM', 'BEN', 'NITA', 'BEN');
17 INSERT INTO PARENT_INFO VALUES (620, 'SEAN', 'TAYLOR', 'RHEA', 'TAYLOR');
18 INSERT INTO PARENT_INFO VALUES (630, 'DAVE', 'CARMEN', 'CATHY', 'CARMEN');
19 ALTER TABLE PARENT_INFO READ WRITE;
20 SELECT * FROM PARENT_INFO;
21
```

Results Explain Describe Saved SQL History

ID	PARENT1_FN	PARENT1_LN	PARENT2_FN	PARENT2_LN
620	SEAN	TAYLOR	RHEA	TAYLOR
630	DAVE	CARMEN	CATHY	CARMEN
600	NEIL	SMITH	DORIS	SMITH
610	WILLIAM	BEN	NITA	BEN

4 rows returned in 0.01 seconds Download

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SQL Commands

Language SQL Rows 10 Clear Command Find Tables Save Run

```
22 CREATE TABLE AD_STUDENTS (ID NUMBER(10), FIRST_NAME VARCHAR(20), LAST_NAME VARCHAR(20), REG_YEAR DATE, EMAIL VARCHAR(16), PARENT_ID NUMBER(10));
23 INSERT INTO AD_STUDENTS VALUES (720, 'JACK', 'SMITH', '01-JAN-2012', 'JSMITH@SCHOOLEDU', 600);
24 INSERT INTO AD_STUDENTS VALUES (730, 'NOAH', 'AUDRY', '01-JAN-2012', 'NAUDRY@SCHOOLEDU', 640);
25 INSERT INTO AD_STUDENTS VALUES (740, 'RHONDA', 'TAYLOR', '01-SEP-2012', 'RTAYLOR@SCHOOLEDU', 620);
26 INSERT INTO AD_STUDENTS VALUES (750, 'ROBERT', 'BEN', '01-MAR-2012', 'RBEN@SCHOOLEDU', 610);
27 INSERT INTO AD_STUDENTS VALUES (760, 'JEANNE', 'BEN', '01-MAR-2012', 'JBEN@SCHOOLEDU', 610);
28 INSERT INTO AD_STUDENTS VALUES (770, 'MILLS', 'CARMEN', '01-APR-2013', 'MCARMEN@SCHOOLEDU', 630);
29 SELECT * FROM AD_STUDENTS;
30
```

Results Explain Describe Saved SQL History

ID	FIRST_NAME	LAST_NAME	REG_YEAR	EMAIL	PARENT_ID
740	RHONDA	TAYLOR	01-Sep-2012	RTAYLOR@SCHOOLEDU	620
750	ROBERT	BEN	01-Mar-2012	RBEN@SCHOOLEDU	610
730	NOAH	AUDRY	01-Jan-2012	NAUDRY@SCHOOLEDU	640
760	JEANNE	BEN	01-Mar-2012	JBEN@SCHOOLEDU	610
770	MILLS	CARMEN	01-Apr-2013	MCARMEN@SCHOOLEDU	630
720	JACK	SMITH	01-Jan-2012	JSMITH@SCHOOLEDU	600

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SQL Commands

Language SQL Rows 10 Clear Command Find Tables Save Run

```
31 CREATE TABLE AD_COURSES (ID NUMBER(10), NAME VARCHAR(25), SESSION_ID NUMBER(10), DEPT_ID NUMBER(6), LOGIN_ID VARCHAR(20), PASSWORD1 VARCHAR(10), BUILDING VARCHAR(10), ROOM VARCHAR(10));
32 INSERT INTO AD_COURSES VALUES (195, 'CELL BIOLOGY', 200, 20, 0, 0, 'BUILDING D', 401);
33 INSERT INTO AD_COURSES VALUES (190, 'PRINCIPLES OF ACCOUNTING', 100, 10, 0, 0, 'BUILDING A', 101);
34 INSERT INTO AD_COURSES VALUES (192, 'COST ACCOUNTING', 100, 10, 0, 0, 'BUILDING C', 301);
35 INSERT INTO AD_COURSES VALUES (194, 'GENERAL BIOLOGY', 200, 20, 'BIO123', 'PASSWORD', NULL, NULL);
36 SELECT * FROM AD_COURSES;
37
```

Results Explain Describe Saved SQL History

ID	NAME	SESSION_ID	DEPT_ID	LOGIN_ID	PASSWORD1	BUILDING	ROOM
190	PRINCIPLES OF ACCOUNTING	100	10	0	0	BUILDING A	101
195	CELL BIOLOGY	200	20	0	0	BUILDING D	401
192	COST ACCOUNTING	100	10	0	0	BUILDING C	301
194	GENERAL BIOLOGY	200	20	BIO123	PASSWORD	-	-

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SQL Commands Schema IN_B776_SQL_S05

Language SQL Rows 10 Clear Command Find Tables Save Run

```
59 CREATE TABLE AD_EXAM_RESULTS(STUDENT_ID NUMBER(10),COURSE_ID NUMBER(10),EXAM_ID NUMBER(10),EXAM_GRADE VARCHAR(10));
60 INSERT INTO AD_EXAM_RESULTS VALUES(720,190, 500 ,91);
61 INSERT INTO AD_EXAM_RESULTS VALUES(730,195,540,87 );
62 INSERT INTO AD_EXAM_RESULTS VALUES(730, 194, 530, 85 );
63 INSERT INTO AD_EXAM_RESULTS VALUES(750,195,510,97);
64 INSERT INTO AD_EXAM_RESULTS VALUES(760,192,510,70 );
65 INSERT INTO AD_EXAM_RESULTS VALUES(760,192,540, 65 );
66 INSERT INTO AD_EXAM_RESULTS VALUES(760,191,530,60 );
67 SELECT* FROM AD_EXAM_RESULTS;
```

Results Explain Describe Saved SQL History

STUDENT_ID	COURSE_ID	EXAM_ID	EXAM_GRADE
730	194	530	85
760	192	510	70
730	195	540	87
760	192	540	65
760	191	530	60
770	190	500	91

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Language SQL Rows 10 Clear Command Find Tables Save Run

```
69 CREATE TABLE AD_STUDENT_ATTENDANCE(STUDENT_ID NUMBER(10),SESSION_ID NUMBER(10),NUM_WORK_DAYS NUMBER(10),NUM_DAYS_OFF NUMBER(10),EXAM_ELIGIBILITY VARCHAR(10));
70 INSERT INTO AD_STUDENT_ATTENDANCE VALUES(730,200,180,11,'Y');
71 INSERT INTO AD_STUDENT_ATTENDANCE VALUES(740,300,180,12,'Y');
72 INSERT INTO AD_STUDENT_ATTENDANCE VALUES(770,300,180,13,'Y');
73 INSERT INTO AD_STUDENT_ATTENDANCE VALUES(720,100,180,21,'Y');
74 SELECT* FROM AD_STUDENT_ATTENDANCE;
75
```

Results Explain Describe Saved SQL History

STUDENT_ID	SESSION_ID	NUM_WORK_DAYS	NUM_DAYS_OFF	EXAM_ELIGIBILITY
770	300	180	13	Y
720	100	180	21	Y
740	300	180	12	Y
730	200	180	11	Y

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Language SQL Rows 10 Clear Command Find Tables Save Run

```
76 CREATE TABLE AD_STUDENT_COURSE_DETAILS(STUDENT_ID NUMBER(10),COURSE_ID NUMBER(10),GRADE VARCHAR(4));
77 INSERT INTO AD_STUDENT_COURSE_DETAILS VALUES(720,190,'A');
78 INSERT INTO AD_STUDENT_COURSE_DETAILS VALUES(750,192,'A');
79 INSERT INTO AD_STUDENT_COURSE_DETAILS VALUES(760,190,'B');
80 INSERT INTO AD_STUDENT_COURSE_DETAILS VALUES(770,194,'A');
81 INSERT INTO AD_STUDENT_COURSE_DETAILS VALUES(720,193,'B');
82 INSERT INTO AD_STUDENT_COURSE_DETAILS VALUES(760,192,'C');
83 SELECT * FROM AD_STUDENT_COURSE_DETAILS;
```

Results Explain Describe Saved SQL History

STUDENT_ID	COURSE_ID	GRADE
770	194	A
760	190	B
720	193	B
750	192	A
760	192	C
720	190	A

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Language SQL Rows 10 Clear Command Find Tables Save Run

```
85 CREATE TABLE AD_FACULTY_COURSE_DETAILS(FACULTY_ID NUMBER(10),COURSE_ID NUMBER(10),CONTACT_HRS NUMBER(3));
86 INSERT INTO AD_FACULTY_COURSE_DETAILS VALUES(800,192,3);
87 INSERT INTO AD_FACULTY_COURSE_DETAILS VALUES(800,193,4);
88 INSERT INTO AD_FACULTY_COURSE_DETAILS VALUES(800,190,5);
89 INSERT INTO AD_FACULTY_COURSE_DETAILS VALUES(800,191,3);
90 INSERT INTO AD_FACULTY_COURSE_DETAILS VALUES(800,192,3);
91 INSERT INTO AD_FACULTY_COURSE_DETAILS VALUES(810,194,4);
92 SELECT * FROM AD_FACULTY_COURSE_DETAILS;
93
```

Results Explain Describe Saved SQL History

FACULTY_ID	COURSE_ID	CONTACT_HRS
800	192	3
810	194	4
800	193	4
800	191	3
800	190	5

5 rows returned in 0.00 seconds Download

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SQL Commands

```

94 CREATE TABLE AD_FACULTY_LOGIN_DETAILS(FACULTY_ID NUMBER(10),LOGIN_DATE_TIME TIMESTAMP);
95 INSERT INTO AD_FACULTY_LOGIN_DETAILS VALUES(800,'01-JUN-17 05.10.39.000PM');
96 INSERT INTO AD_FACULTY_LOGIN_DETAILS VALUES(800,'01-JUN-17 05.13.15.000PM');
97 INSERT INTO AD_FACULTY_LOGIN_DETAILS VALUES(810,'01-JUN-17 05.13.12.000PM');
98 INSERT INTO AD_FACULTY_LOGIN_DETAILS VALUES(820,'01-JUN-17 05.10.31.000PM');
99 SELECT * FROM AD_FACULTY_LOGIN_DETAILS;
100

```

Results

FACULTY_ID	LOGIN_DATE_TIME
800	01-JUN-17 05.13.15.000000 PM
810	01-JUN-17 05.13.12.000000 PM
820	01-JUN-17 05.10.31.000000 PM
800	01-JUN-17 05.10.39.000000 PM

4 rows returned in 0.01 seconds

Exercise 2: Updating Rows in the Tables Overview You will update the records in FACULTY_LOGIN_DETAILS table to include a DETAILS field in the table.

1. Alter the AD_FACULTY_LOGIN_DETAILS table to add a field called DETAILS make it a VARCHAR2(50) character field – it can have null values.

SQL Commands

```

101
102 ALTER TABLE AD_FACULTY_LOGIN_DETAILS ADD DETAILS VARCHAR(50);
103 DESC AD_FACULTY_LOGIN_DETAILS;
104
105
106

```

Describe

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
AD_FACULTY_LOGIN_DETAILS	FACULTY_ID	NUMBER	-	10	0	-	✓	-	-
	LOGIN_DATE_TIME	TIMESTAMP(6)	11	-	6	-	✓	-	-
	DETAILS	VARCHAR2	50	-	-	-	✓	-	-

2. Update at least 2 records in the DETAILS column in the faculty login details table. **Note: You will have to look up the LOGIN_DATE_TIME values for the records being updated since it is part of the primary key.

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105

CREATE TABLE copy_FAC_LOGIN AS (SELECT* FROM AD_FACULTY_LOGIN_DETAILS);

106

INSERT INTO copy_FAC_LOGIN VALUES(800,'01-JUN-17 05:10:39.000PM','ABCDEFG');

107

INSERT INTO copy_FAC_LOGIN VALUES(800,'01-JUN-17 05:13:15.000PM','XYZ');

108

SELECT*FROM copy_FAC_LOGIN;

Results

Explain

Describe

Saved SQL

History

FACULTY_ID	LOGIN_DATE_TIME	DETAILS
800	01-JUN-17 05:13:15.000000 PM	-
810	01-JUN-17 05:13:12.000000 PM	-
820	01-JUN-17 05:10:51.000000 PM	-
800	01-JUN-17 05:10:39.000000 PM	-
800	01-JUN-17 05:13:15.000000 PM	XYZ
800	01-JUN-17 05:10:39.000000 PM	ABCDEFG

6 rows returned in 0.01 secondsDownload

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