ORACLE®
Academy

Database Foundations
6-4 : Defining Data Manipulation
Practice Solutions

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).

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

AD_ACADEMIC_SESSIONS:

ID	NAME
100	SPRING SESSION
200	FALL SESSION
300	SUMMER SESSION

Solution : INSERTING ROWS IN THE AD_ACADEMIC_SESSIONS TABLE

```
INSERT INTO AD_ACADEMIC_SESSIONS VALUES (100, 'SPRING SESSION');
INSERT INTO AD_ACADEMIC_SESSIONS VALUES (200, 'FALL SESSION');
INSERT INTO AD_ACADEMIC_SESSIONS VALUES (300, 'SUMMER SESSION');
```

AD_DEPARTMENTS:

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

Solution : INSERTING ROWS IN THE AD_DEPARTMENTS TABLE

```
INSERT INTO AD_DEPARTMENTS VALUES(10, 'ACCOUNTING', 'MARK SMITH');
INSERT INTO AD_DEPARTMENTS VALUES(20, 'BIOLOGY', 'DAVE GOLD');
INSERT INTO AD_DEPARTMENTS VALUES(30, 'COMPUTER SCIENCE', 'LINDA BROWN');
INSERT INTO AD_DEPARTMENTS VALUES(40, 'LITERATURE', 'ANITA TAYLOR');
```

AD_PARENT_INFORMATION: (Hint : must return to READ/WRITE status)

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

Solution : INSERTING ROWS IN THE AD_PARENT_INFORMATION TABLE

```
ALTER TABLE AD_PARENT_INFORMATION READ WRITE;
INSERT INTO AD_PARENT_INFORMATION VALUES(600,'NEIL', 'SMITH','DORIS', 'SMITH');
INSERT INTO AD_PARENT_INFORMATION VALUES(610,'WILLIAM', 'BEN','NITA', 'BEN');
INSERT INTO AD_PARENT_INFORMATION VALUES(620,'SEAN', 'TAYLOR','RHEA', 'TAYLOR');
INSERT INTO AD_PARENT_INFORMATION VALUES(630,'DAVE', 'CARMEN','CATHY', 'CARMEN');
INSERT INTO AD_PARENT_INFORMATION VALUES(640,'JOHN', 'AUDRY','JANE', 'AUDRY');
```

AD_STUDENTS:

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

Solution : INSERTING ROWS IN THE AD_STUDENTS TABLE

```
INSERT INTO AD_STUDENTS VALUES(720, 'JACK','SMITH', TO_DATE('01-Jan-2012','DD-Mon-
YYYY'),'JSMITH@SCHOOL.EDU', 600);
INSERT INTO AD_STUDENTS VALUES(730, 'NOAH', 'AUDRY', TO_DATE('01-Jan-2012','DD-Mon-
YYYY'),'NAUDRY@SCHOOL.EDU', 640);
INSERT INTO AD_STUDENTS VALUES(740, 'RHONDA','TAYLOR', TO_DATE('01-Sep-2012','DD-Mon-
YYYY'),'RTAYLOR@SCHOOL.EDU', 620);
INSERT INTO AD_STUDENTS VALUES(750, 'ROBERT','BEN', TO_DATE('01-Mar-2012','DD-Mon-
YYYY'),'RBEN@SCHOOL.EDU', 610);
INSERT INTO AD_STUDENTS VALUES(760, 'JEANNE','BEN', TO_DATE('01-Mar-2012','DD-Mon-
YYYY'),'JBEN@SCHOOL.EDU', 610);
```

```
INSERT INTO AD_STUDENTS VALUES(770, 'MILLS','CARMEN', TO_DATE('01-Apr-2013','DD-Mon-
YYYY'),'MCARMEN@SCHOOL.EDU', 630);
```

AD_COURSES:

ID	NAME	SESSION_ID	DEPT_ID	LOGON_ID	PASSWORD	BUILDING	ROOM	DATE_TIME
195	CELL BIOLOGY	200	20	-	-	BUILDING D	401	MWF 9-10
190	PRINCIPLES OF ACCOUNTING	100	10	-	-	BUILDING A	101	MWF 12-1
191	INTRODUCTION TO BUSINESS LAW	100	10	-	-	BUILDING B	201	THUR 2-4
192	COST ACCOUNTING	100	10	-	-	BUILDING C	301	TUES 5-7
193	STRATEGIC TAX PLANNING FOR BUSINESS	100	10	TAX123	PASSWORD	-	-	-
194	GENERAL BIOLOGY	200	20	BIO123	PASSWORD	-	-	-

Solution : INSERTING ROWS IN THE AD_COURSES TABLE

```
INSERT INTO AD_COURSES VALUES (190, 'PRINCIPLES OF ACCOUNTING', 100, 10,NULL,NULL,'BUILDING
A','101','MWF 12-1');
INSERT INTO AD_COURSES VALUES (191, 'INTRODUCTION TO BUSINESS LAW', 100,
10,NULL,NULL,'BUILDING B','201','THUR 2-4');
INSERT INTO AD_COURSES VALUES (192, 'COST ACCOUNTING', 100, 10,NULL,NULL,'BUILDING
C','301','TUES 5-7');
INSERT INTO AD_COURSES VALUES (193, 'STRATEGIC TAX PLANNING FOR BUSINESS', 100,
10,'TAX123','PASSWORD',NULL,NULL,NULL);
INSERT INTO AD_COURSES VALUES (194, 'GENERAL BIOLOGY', 200,
20,'BIO123','PASSWORD',NULL,NULL,NULL);
INSERT INTO AD_COURSES VALUES (195, 'CELL BIOLOGY', 200, 20,NULL,NULL,'BUILDING
D','401','MWF 9-10');
```

AD_FACULTY:

ID	FIRST_NAME	LAST_NAME	EMAIL	SALARY	INSURANCE	HOURLY_RATE	DEPT_ID
800	JILL	MILLER	JMILL@SCHOOL.EDU	10000	HEALTH	-	20
810	JAMES	BORG	JBORG@SCHOOL.EDU	30000	HEALTH,DENTAL	-	10
820	LYNN	BROWN	LBROWN@SCHOOL.EDU	-	-	50	30
830	ARTHUR	SMITH	ASMITH@SCHOOL.EDU	-	-	40	10
840	SALLY	JONES	SJONES@SCHOOL.EDU	50000	HEALTH,DENTAL,VISION	-	40

Solution : INSERTING ROWS IN THE AD_FACULTY TABLE

```
INSERT INTO AD_FACULTY VALUES (800, 'JILL',
'MILLER','JMILL@SCHOOL.EDU',10000,'HEALTH',NULL,20);
INSERT INTO AD_FACULTY VALUES (810, 'JAMES',
'BORG','JBORG@SCHOOL.EDU',30000,'HEALTH,DENTAL',NULL,10);
INSERT INTO AD_FACULTY VALUES (820, 'LYNN', 'BROWN','LBROWN@SCHOOL.EDU',NULL,NULL,50,30);
INSERT INTO AD_FACULTY VALUES (830, 'ARTHUR', 'SMITH','ASMITH@SCHOOL.EDU',NULL,NULL,40,10);
INSERT INTO AD_FACULTY VALUES (840, 'SALLY',
'JONES','SJONES@SCHOOL.EDU',50000,'HEALTH,DENTAL,VISION',NULL,40);
```

AD_EXAM_TYPES:

TYPE	NAME	DESCRIPTION
MCE	Multiple Choice Exams	CHOOSE MORE THAN ONE ANSWER
TF	TRUE AND FALSE Exams	CHOOSE EITHER TRUE OR FALSE
ESS	ESSAY Exams	WRITE PARAGRAPHS
SA	SHORT ANSWER Exams	WRITE SHORT ANSWERS
FIB	FILL IN THE BLANKS Exams	TYPE IN THE CORRECT ANSWER

Solution : INSERTING ROWS IN THE AD_EXAM_TYPES TABLE

```
INSERT INTO AD_EXAM_TYPES VALUES('MCE','Multiple Choice Exams','CHOOSE MORE THAN ONE ANSWER');
INSERT INTO AD_EXAM_TYPES VALUES('TF','TRUE AND FALSE Exams','CHOOSE EITHER TRUE OR FALSE');
INSERT INTO AD_EXAM_TYPES VALUES('FIB','FILL IN THE BLANKS Exams','TYPE IN THE CORRECT ANSWER');
INSERT INTO AD_EXAM_TYPES VALUES('ESS','ESSAY Exams','WRITE PARAGRAPHS');
INSERT INTO AD_EXAM_TYPES VALUES('SA','SHORT ANSWER Exams','WRITE SHORT ANSWERS');
```

AD_EXAMS:

ID	START_DATE	EXAM_TYPE	COURSE_ID
500	12-Sep-2013	MCE	190
510	15-Sep-2013	SA	191
520	18-Sep-2013	FIB	192
530	21-Mar-2014	ESS	193
540	02-Apr-2014	TF	194

Solution : INSERTING ROWS IN THE AD_EXAMS TABLE

```
INSERT INTO AD_EXAMS VALUES(500, TO_DATE('12-Sep-2013','DD-Mon-YYYY'),'MCE',190);
INSERT INTO AD_EXAMS VALUES(510, TO_DATE('15-Sep-2013','DD-Mon-YYYY'),'SA', 191);
INSERT INTO AD_EXAMS VALUES(520, TO_DATE('18-Sep-2013','DD-Mon -YYYY'),'FIB', 192);
INSERT INTO AD_EXAMS VALUES(530, TO_DATE('21-Mar-2014','DD-Mon -YYYY'),'ESS', 193);
INSERT INTO AD_EXAMS VALUES(540, TO_DATE('02-Apr-2014','DD-Mon-YYYY'),'TF', 194);
```

AD_EXAM_RESULTS:

STUDENT_ID	COURSE_ID	EXAM_ID	EXAM_GRADE
720	190	500	91
730	195	540	87
730	194	530	85
750	195	510	97
750	191	520	78
760	192	510	70
720	193	520	97
750	192	500	60
760	192	540	65
760	191	530	60

Solution : INSERTING ROWS IN THE AD_EXAM_RESULTS TABLE

```
INSERT INTO AD_EXAM_RESULTS VALUES(720,190,500,91);
INSERT INTO AD_EXAM_RESULTS VALUES(720,193,520,97);
INSERT INTO AD_EXAM_RESULTS VALUES(730,195,540,87);
INSERT INTO AD_EXAM_RESULTS VALUES(730,194,530,85);
INSERT INTO AD_EXAM_RESULTS VALUES(750,192,500,60);
INSERT INTO AD_EXAM_RESULTS VALUES(750,195,510,97);
INSERT INTO AD_EXAM_RESULTS VALUES(750,191,520,78);
INSERT INTO AD_EXAM_RESULTS VALUES(760,192,540,65);
INSERT INTO AD_EXAM_RESULTS VALUES(760,191,530,60);
INSERT INTO AD_EXAM_RESULTS VALUES(760,192,510,70);
```

AD_STUDENT_ATTENDANCE:

STUDENT_ID	SESSION_ID	NUM_WORK_DAYS	NUM_DAYS_OFF	EXAM_ELIGIBILITY
730	200	180	11	Y
740	300	180	12	Y
770	300	180	13	Y
720	100	180	21	Y
750	100	180	14	Y
760	200	180	15	Y

Solution : INSERTING ROWS IN THE AD_STUDENT_ATTENDANCE

```
INSERT INTO AD_STUDENT_ATTENDANCE VALUES( 720,100, 180, 21,'Y');
INSERT INTO AD_STUDENT_ATTENDANCE VALUES( 730,200, 180, 11,'Y');
INSERT INTO AD_STUDENT_ATTENDANCE VALUES( 740,300, 180, 12,'Y');
INSERT INTO AD_STUDENT_ATTENDANCE VALUES( 750,100, 180, 14,'Y');
INSERT INTO AD_STUDENT_ATTENDANCE VALUES( 760,200, 180, 15,'Y');
INSERT INTO AD_STUDENT_ATTENDANCE VALUES( 770,300, 180, 13,'Y');
```

AD_STUDENT_COURSE_DETAILS:

STUDENT_ID	COURSE_ID	GRADE
720	190	A
750	192	A
760	190	B
770	194	A
720	193	B
730	191	C
740	195	F
760	192	C
770	192	D
770	193	F

Solution: INSERTING ROWS IN THE AD_STUDENT_COURSE_DETAILS TABLE

```
INSERT INTO AD_STUDENT_COURSE_DETAILS VALUES(720,190,'A');
INSERT INTO AD_STUDENT_COURSE_DETAILS VALUES(720,193,'B');
INSERT INTO AD_STUDENT_COURSE_DETAILS VALUES(730,191,'C');
INSERT INTO AD_STUDENT_COURSE_DETAILS VALUES(740,195,'F');
INSERT INTO AD_STUDENT_COURSE_DETAILS VALUES(750,192,'A');
INSERT INTO AD_STUDENT_COURSE_DETAILS VALUES(760,190,'B');
INSERT INTO AD_STUDENT_COURSE_DETAILS VALUES(760,192,'C');
INSERT INTO AD_STUDENT_COURSE_DETAILS VALUES(770,192,'D');
INSERT INTO AD_STUDENT_COURSE_DETAILS VALUES(770,193,'F');
INSERT INTO AD_STUDENT_COURSE_DETAILS VALUES(770,194,'A');
```

AD_FACULTY_COURSE_DETAILS:

FACULTY_ID	COURSE_ID	CONTACT_HRS
800	192	3
800	193	4
800	190	5
800	191	3
810	194	4
810	195	5

Solution : INSERTING ROWS IN THE AD_FACULTY_COURSE_DETAILS TABLE

```
INSERT INTO AD_FACULTY_COURSE_DETAILS VALUES (800, 192,3);
INSERT INTO AD_FACULTY_COURSE_DETAILS VALUES (800, 193,4);
INSERT INTO AD_FACULTY_COURSE_DETAILS VALUES (800, 190,5);
INSERT INTO AD_FACULTY_COURSE_DETAILS VALUES (800, 191,3);
INSERT INTO AD_FACULTY_COURSE_DETAILS VALUES (810, 194,4);
INSERT INTO AD_FACULTY_COURSE_DETAILS VALUES (810, 195,5);
```

AD_FACULTY_LOGIN_DETAILS:

FACULTY_ID	LOGIN_DATE_TIME
800	01-JUN-17 05.10.39.000000 PM
800	01-JUN-17 05.13.15.000000 PM
810	01-JUN-17 05.13.21.000000 PM
840	01-JUN-17 05.13.26.000000 PM
820	01-JUN-17 05.13.31.000000 PM
830	01-JUN-17 05.13.36.000000 PM

Solution : INSERTING ROWS IN THE AD_FACULTY_LOGIN_DETAILS TABLE

```
INSERT INTO AD_FACULTY_LOGIN_DETAILS VALUES(800,DEFAULT,);
INSERT INTO AD_FACULTY_LOGIN_DETAILS VALUES(810, DEFAULT);
INSERT INTO AD_FACULTY_LOGIN_DETAILS VALUES(840, DEFAULT);
INSERT INTO AD_FACULTY_LOGIN_DETAILS VALUES(820, DEFAULT);
INSERT INTO AD_FACULTY_LOGIN_DETAILS VALUES(830, DEFAULT);
```

Note: You can write the INSERT statements and save them as .sql script which can then be uploaded into APEX and executed.

** Note : Completed script is available in Section 0 (Academic DB Script.ddl)

You can run/execute these commands in Oracle Application Express as a script:

a. Save the above DDL statements as a text file.
b. Logon to APEX
c. Click **SQL Workshop**
d. Click **SQL Scripts**
e. Click the **Upload** button
f. In the **Upload Script** window, click **Browse…**, choose the SQL script; provide a Script Name. Once done, click **Upload**.
g. You will get a message that the script is uploaded. Click the **Run** button. You are taken to a window that displays the script uploaded. Click the **Run Script** button, to execute the statements.
h. The Results window displays whether the statements were executed successfully.

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.

Tasks
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.

Solution:
```
ALTER TABLE AD_FACULTY_LOGIN_DETAILS
ADD  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.

Solution:

```
UPDATE AD_FACULTY_LOGIN_DETAILS
SET DETAILS = 'TEST LOGIN'
where FACULTY_ID = 810 AND
LOGIN_DATE_TIME = '01-JUN-17 05.44.06.000000 PM'   **use correct date/time on your record

UPDATE AD_FACULTY_LOGIN_DETAILS
SET DETAILS = 'CLASS LOGIN'
where FACULTY_ID = 840 AND
LOGIN_DATE_TIME = '01-JUN-17 05.44.10.000000 PM'   **use correct date/time on your record
```

Verify that the DETAILS column has been updated with the values:

```
SELECT * FROM AD_FACULTY_LOGIN_DETAILS
```

FACULTY_ID	LOGIN_DATE_TIME	DETAILS
810	01-JUN-17 05.44.06.000000 PM	**TEST LOGIN**
840	01-JUN-17 05.44.10.000000 PM	**CLASS LOGIN**
800	01-JUN-17 05.43.55.000000 PM	-
800	01-JUN-17 05.44.01.000000 PM	-
820	01-JUN-17 05.44.14.000000 PM	-
830	01-JUN-17 05.44.19.000000 PM	-