

LAB 3 – HOMETASK

23K-0594

Q1.

```
create table DEPARTMENTS (
  department_id number PRIMARY KEY,
  department_name varchar2(50) UNIQUE
);

--adding dept_id col in employees if doesnt exist already
ALTER TABLE EMPLOYEES ADD department_id NUMBER;

ALTER TABLE EMPLOYEES ADD CONSTRAINT fk_emp_dept FOREIGN KEY (department_id) REFERENCES DEPARTMENTS(department_id);
```

COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1 DEPARTMENT_ID	NUMBER	No	(null)	1 (null)	
2 DEPARTMENT_NAME	VARCHAR2 (50 BYTE)	Yes	(null)	2 (null)	

CONSTRAINT_NAME	CONSTRAINT_TYPE	SEARCH_CONDITION	R_OWNER	R_TABLE_NAME	R_CONSTRAINT_NAME	DELETE_RULE	STATUS	DEFERRABLE	VALIDATED	GENERATED	BAD	RELY	LAST_CHANGE	INDEX_OWNER	INDEX_NAME
1 FK_EMP_DEPT	Foreign_Key	(null)	SYSTEM	DEPARTMENTS	SYS_C007005	NO ACTION	ENABLED	NOT DEFERRABLE	VALIDATED	USER NAME	(null)	(null)	06-SEP-25	(null)	(null)
2 SYS_C007009	Primary_Key	(null)	(null)	(null)	(null)	(null)	ENABLED	NOT DEFERRABLE	VALIDATED	GENERATED NAME	(null)	(null)	06-SEP-25	SYSTEM	SYS_C007009

COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENT
1 EMPLOYEE_ID	NUMBER	No	(null)	1 (null)	
2 FIRST_NAME	VARCHAR2 (50 BYTE)	Yes	(null)	2 (null)	
3 HIRE_DATE	DATE	Yes	(null)	3 (null)	
4 DEPARTMENT_ID	NUMBER	Yes	(null)	4 (null)	

Q2.

```
CREATE TABLE HIRE_LOG AS SELECT employee_id, first_name, hire_date FROM EMPLOYEES
WHERE EXTRACT(YEAR FROM hire_date) = 2024;

--employee_id to remain the primary key in HIRE_LOG
ALTER TABLE HIRE_LOG ADD CONSTRAINT pk_hirelog PRIMARY KEY (employee_id);
```

Welcome Page

system

HIRE_LOG

Columns

Data

Model

Constraints

Grants

Statistics

Triggers

Flashback

Dependencies

Details

Partitions

Indexes

SQL

Actions...

	COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEFAULT	COLUMN_ID	COMMENTS
1	EMPLOYEE_ID	NUMBER	No	(null)	1	(null)
2	FIRST_NAME	VARCHAR2 (50 BYTE)	Yes	(null)	2	(null)
3	HIRE_DATE	DATE	Yes	(null)	3	(null)

Q3.

```

Welcome Page | system | HIRE_LOG
0.197 seconds

Worksheet | Query Builder

INSERT INTO DEPARTMENTS (department_id, department_name) VALUES (101, 'Human Resources');

INSERT INTO DEPARTMENTS (department_id, department_name) VALUES (102, 'Marketing');

INSERT INTO DEPARTMENTS (department_id, department_name) VALUES (103, 'Engineering');

INSERT INTO DEPARTMENTS (department_id, department_name) VALUES (163, 'Finance');

INSERT INTO DEPARTMENTS (department_id, department_name) VALUES (185, 'Sales');

```

Welcome Page
 system
 DEPARTMENTS

Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies

Sort.. | Filter:

DEPARTMENT_ID	DEPARTMENT_NAME
1	101 Human Resources
2	102 Marketing
3	103 Engineering
4	163 Finance
5	185 Sales

Q4.

```

Welcome Page | system
0.037 seconds

Worksheet | Query Builder

INSERT INTO EMPLOYEES (employee_id, first_name, hire_date, department_id)
SELECT 101, 'Ayesha', DATE '2024-09-07', 103
FROM dual
WHERE EXISTS (
    SELECT 1 FROM DEPARTMENTS WHERE department_id = 103
);

```

Welcome Page × system × EMPLOYEES ×				
Columns Data Model Constraints Grants Statistics Triggers Flashback Dependencies Details Filter:				
	EMPLOYEE_ID	FIRST_NAME	HIRE_DATE	DEPARTMENT_ID
1	1	Ali	10-JAN-24	101
2	2	Sara	15-JUN-23	163
3	3	Ahmed	20-JUL-24	103
4	101	Ayesha	07-SEP-24	103

Q5.

```

Welcome Page × system × EMPLOYEES ×
0.233 seconds

Worksheet | Query Builder

UPDATE EMPLOYEES
SET department_id = (
    SELECT department_id
    FROM DEPARTMENTS
    WHERE department_name = 'Human Resources'
)
WHERE department_id = (
    SELECT department_id
    FROM DEPARTMENTS
    WHERE department_name = 'Marketing'
);

```

Welcome Page × system × EMPLOYEES ×				
Columns Data Model Constraints Grants Statistics Triggers Flashback Dependencies Details Filter:				
	EMPLOYEE_ID	FIRST_NAME	HIRE_DATE	DEPARTMENT_ID
1	1	Ali	10-JAN-24	101
2	2	Sara	15-JUN-23	163
3	3	Ahmed	20-JUL-24	103
4	101	Ayesha	07-SEP-24	103
5	122	Sara	10-FEB-14	102

Welcome Page × system × EMPLOYEES ×				
Columns Data Model Constraints Grants Statistics Triggers Flashback Dependencies Details Partit				
	EMPLOYEE_ID	FIRST_NAME	HIRE_DATE	DEPARTMENT_ID
1	1	Ali	10-JAN-24	101
2	2	Sara	15-JUN-23	163
3	3	Ahmed	20-JUL-24	103
4	101	Ayesha	07-SEP-24	103
5	122	Sara	10-FEB-14	101

Q6.

```

Welcome Page × system × EMPLOYEES ×
0.091 seconds

Worksheet | Query Builder

DELETE FROM EMPLOYEES WHERE EXTRACT(YEAR FROM SYSDATE) - EXTRACT(YEAR FROM HIRE_DATE) > 5 AND DEPARTMENT_ID <> (
    SELECT department_id
    FROM DEPARTMENTS
    WHERE department_name = 'Engineering'
)
AND Project_Status = 'COMPLETED';

Script Output ×
Task completed in 0.091 seconds

0 rows deleted.

```

Welcome Page × system × EMPLOYEES ×					
Columns Data Model Constraints Grants Statistics Triggers Flashback Dependencies Details Partitions Indexes SQL					
Sort.. Filter:					
EMPLOYEE_ID	FIRST_NAME	HIRE_DATE	DEPARTMENT_ID	PROJECT_STATUS	
1	1 Ali	10-JAN-24	101	COMPLETED	
2	2 Sara	15-JUN-23	163	COMPLETED	
3	3 Ahmed	20-JUL-24	103	COMPLETED	
4	101 Ayesha	07-SEP-24	103	IN_PROGRESS	
5	122 Sara	10-FEB-14	101	IN_PROGRESS	

Q7.

Welcome Page ×
system ×
EMPLOYEES ×

Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Partitions | Indexes | SQL

Sort.. | Filter:

Worksheet

Query Builder

UPDATE EMPLOYEES
SET SALARY = SALARY * (
CASE
WHEN DEPARTMENT_ID = (
SELECT department_id FROM DEPARTMENTS WHERE department_name = 'Engineering'
) THEN 1.05
WHEN DEPARTMENT_ID = (
SELECT department_id FROM DEPARTMENTS WHERE department_name = 'Human Resources'
) THEN 1.07
WHEN DEPARTMENT_ID = (
SELECT department_id FROM DEPARTMENTS WHERE department_name = 'Finance'
) THEN 1.09
WHEN DEPARTMENT_ID = (
SELECT department_id FROM DEPARTMENTS WHERE department_name = 'Marketing'
) THEN 1.12
ELSE 1
END
)
WHERE EXTRACT(YEAR FROM HIRE_DATE) < EXTRACT(YEAR FROM SYSDATE);

Script Output ×

Task completed in 0.072 seconds

5 rows updated.

5 rows updated.

5 rows updated.

Welcome Page × system × EMPLOYEES ×					
Columns Data Model Constraints Grants Statistics Triggers Flashback Dependencies Details Partitions Indexes SQL					
Sort.. Filter:					
EMPLOYEE_ID	FIRST_NAME	HIRE_DATE	DEPARTMENT_ID	PROJECT_STATUS	SALARY
1	1 Ali	10-JAN-24	101	COMPLETED	50000
2	2 Sara	15-JUN-23	163	COMPLETED	50000
3	3 Ahmed	20-JUL-24	103	COMPLETED	50000
4	101 Ayesha	07-SEP-24	103	IN_PROGRESS	50000
5	122 Sara	10-FEB-14	101	IN_PROGRESS	50000

Welcome Page × system × EMPLOYEES ×					
Columns Data Model Constraints Grants Statistics Triggers Flashback Dependencies Details Partitions Indexes SQL					
Sort.. Filter:					
EMPLOYEE_ID	FIRST_NAME	HIRE_DATE	DEPARTMENT_ID	PROJECT_STATUS	SALARY
1	1 Ali	10-JAN-24	101	COMPLETED	53500
2	2 Sara	15-JUN-23	163	COMPLETED	54500
3	3 Ahmed	20-JUL-24	103	COMPLETED	52500
4	101 Ayesha	07-SEP-24	103	IN_PROGRESS	52500
5	122 Sara	10-FEB-14	101	IN_PROGRESS	53500

Q8.

Welcome Page × system × EMPLOYEES ×

0.102 seconds

Worksheet | Query Builder

```
ALTER TABLE EMPLOYEES ADD RANKING NUMBER;
UPDATE EMPLOYEES e1
SET RANKING = (
    SELECT COUNT(*)
    FROM EMPLOYEES e2
    WHERE e2.HIRE_DATE <= e1.HIRE_DATE
);
```

Welcome Page × system × EMPLOYEES ×

Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Partitions | Indexes | SQL

Sort.. | Filter:

EMPLOYEE_ID	FIRST_NAME	HIRE_DATE	DEPARTMENT_ID	PROJECT_STATUS	SALARY	RANKING
1	Ali	10-JAN-24	101	COMPLETED	53500	3
2	Sara	15-JUN-23	163	COMPLETED	54500	2
3	Ahmed	20-JUL-24	103	COMPLETED	52500	4
4	101Ayesha	07-SEP-24	103	IN_PROGRESS	52500	5
5	122 Sara	10-FEB-14	101	IN_PROGRESS	53500	1