

REM: Assignment 7 – TRIGGERS

REM: LAKSHMI PRIYA B

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REM: *****

SET ECHO ON;

SET SERVEROUTPUT ON;

@z:/ex4/air_main.sql

REM: 1. The date of arrival should be always later than or on the same date of departure.

```
CREATE OR REPLACE TRIGGER date_check
BEFORE INSERT OR UPDATE ON fl_schedule
FOR EACH ROW
WHEN(NEW.arrives < NEW.departs OR OLD.arrives < NEW.departs OR
     NEW.arrives < OLD.departs)
BEGIN
    IF INSERTING THEN
        RAISE_APPLICATION_ERROR(-10000,'Insert error: Arrival date is before the Departure date');
    ELSIF UPDATING THEN
        RAISE_APPLICATION_ERROR(-10001,'Update error: Arrival date is before the Departure date');
    END IF;
END;
/
```

REM: Trigger check during invalid insert

```
INSERT INTO fl_schedule VALUES('LTF-54', '21-JUN-05', 0850, '16-JUN-05',
1020, 20);
```

REM: Trigger check during update

```
UPDATE fl_schedule SET arrives='21-APR-05' WHERE departs='22-APR-05';
UPDATE fl_schedule SET departs='13-APR-05' WHERE arrives='12-APR-05';
```

REM: 2. Flight number CX-7520 is scheduled only on Tuesday, Friday and Sunday.

```
CREATE OR REPLACE TRIGGER flight_check
BEFORE INSERT OR UPDATE ON fl_schedule
FOR EACH ROW
WHEN (NEW.flno LIKE 'CX-7520')
DECLARE
    dayofweek NUMBER;
BEGIN
    SELECT TO_CHAR(:NEW.departs, 'D') INTO dayofweek FROM DUAL;
    IF dayofweek NOT IN (1,3,6) THEN
        RAISE_APPLICATION_ERROR(-20000, 'Flight CX-7520 is only scheduled on TUESDAY, FRIDAY
AND SUNDAY');
```

```
END IF;
END;
/
```

REM: Inserting flight CX-7520 to depart on a Monday

```
INSERT INTO fl_schedule VALUES('CX-7520', '13-JUL-2020', 0830, '22-APR-2020', 2220, 1000);
```

REM: Inserting flight CX-7520 to depart on a Friday

```
INSERT INTO fl_schedule VALUES('CX-7520', '24-APR-2020', 1340, '17-JUL-2020', 1050, 1000);
```

REM: 3. An aircraft is assigned to a flight only if its cruising range is

REM: more than the distance of the flights' route.

```
CREATE OR REPLACE TRIGGER distance_check
```

```
BEFORE INSERT OR UPDATE ON flights
```

```
FOR EACH ROW
```

```
DECLARE
```

```
    range NUMBER(5);
```

```
    distance NUMBER(5);
```

```
BEGIN
```

```
    SELECT a.cruisingrange INTO range FROM aircraft a WHERE a.aid=:NEW.aid;
```

```
    SELECT r.distance INTO distance FROM routes r WHERE r.routeID=:NEW.rID;
```

```
    IF range < distance THEN
```

```
        raise_application_error(-30000,'Cruising range must be greater
        than distance of the flights route');
```

```
    END IF;
```

```
END;
```

```
/
```

REM: Violating distance_check during insert operation

```
INSERT INTO flights VALUES('LTF-543', 'LW104',2);
```

REM: Not violating distance_check during insert operation

```
INSERT INTO flights VALUES('LTF-543', 'CN151',4);
```

REM: Violating distance_check during update operation

```
UPDATE flights SET aid=7 WHERE flightNo='JJ-7456';
```

REM: Not violating distance_check during update operation

```
UPDATE flights SET aid=9 WHERE flightNo='JJ-7456';
```

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