

```

SQL> set SERVEROUTPUT on;
SQL> @hw3;
SQL> -- Problem 1
SQL> create or replace trigger ARENA_noDelete_trig
2   before delete
3   on ARENA
4   begin
5       DBMS_OUTPUT.put_line('ARENA_noDelete_trig has fired');
6       raise_application_error(-20008, 'Delete operations are not allowed on
this table');
7   end;
8   /

```

Trigger created.

```

SQL> -- Problem 2
SQL> create or replace trigger PLAYER_noDelete_trig
2   before delete
3   on PLAYER
4   begin
5       DBMS_OUTPUT.put_line('PLAYER_noDelete_trig has fired');
6       raise_application_error(-20009, 'Delete operations are not allowed on
this table');
7   end;
8   /

```

Trigger created.

```

SQL> -- Problem 3
SQL> create or replace trigger TEAM_noDelete_trig
2   before delete
3   on TEAM
4   begin
5       DBMS_OUTPUT.put_line('TEAM_noDelete_trig has fired');
6       raise_application_error(-20010, 'Delete operations are not allowed on
this table');
7   end;
8   /

```

Trigger created.

```

SQL> -- Problem 4
SQL> create or replace trigger ARENA_BeforInsert_trig
2   before INSERT on ARENA
3   FOR EACH ROW
4   begin
5       DBMS_OUTPUT.put_line('ARENA_BeforInsert_trig has fired');
6       If (:new.ARENA_ID = 0 OR :new.ARENA_ID IS NULL) Then
7           select max(ARENA_ID)+1 into :new.ARENA_ID from ARENA;
8       end if;

```

```
9 end;
10 /
```

Trigger created.

SQL> -- Problem 5

```
SQL> create or replace trigger TEAM_noDuplicateName_trig
2   before INSERT on TEAM
3   FOR EACH ROW
4   DECLARE
5       teamCount int;
6   begin
7       DBMS_OUTPUT.put_line('TEAM_noDuplicateName_trig has fired');
8       select count(*) into teamCount from TEAM where TNAME = :new.TNAME;
9       if (teamCount != 0) THEN
10          raise_application_error(-20011, ' Team name already in use,
name: '||:new.TNAME);
11          END IF;
12 end;
13 /
```

Trigger created.

SQL> -- Problem 6

```
SQL> create or replace trigger ARENA_noDuplicateNameCity_trig
2   before INSERT on ARENA
3   FOR EACH ROW
4   DECLARE
5       arenaCount int;
6   begin
7       DBMS_OUTPUT.put_line('ARENA_noDuplicateNameCity_trig has fired');
8       select count(*) into arenaCount from ARENA where CITY = :new.CITY;
9       if (arenaCount != 0) THEN
10          raise_application_error(-20012, 'Arena name already in use,
name: '||:new.CITY);
11          END IF;
12 end;
13 /
```

Trigger created.

SQL> -- Problem 7

```
SQL> create or replace trigger PLAYER_noNulls_trig
2   before INSERT on PLAYER
3   FOR EACH ROW
4   DECLARE
5       errorCount int;
6   begin
7       DBMS_OUTPUT.put_line('PLAYER_noNulls_trig has fired');
8       errorCount := 0;
```

```

 9      If (:new.PNAME = '' OR :new.PNAME IS NULL) Then
10          errorCount := errorCount + 1;
11          DBMS_OUTPUT.put_line('Error: Player Name is Null');
12      END IF;
13      If (:new.EDUCATION = '' OR :new.EDUCATION IS NULL) Then
14          errorCount := errorCount + 1;
15          DBMS_OUTPUT.put_line('Error: Education Name is Null');
16      END IF;
17      If (:new.DRAFT_YEAR = 0 OR :new.DRAFT_YEAR IS NULL) Then
18          errorCount := errorCount + 1;
19          DBMS_OUTPUT.put_line('Error: Draft Year is not valid');
20      END IF;
21      If (:new.retire_year IS NOT NULL) Then
22          errorCount := errorCount + 1;
23          DBMS_OUTPUT.put_line('Error: Do not set retire year');
24      END IF;
25      if (errorCount != 0) THEN
26          raise_application_error(-20013, 'PLAYER table. Insert
operation failed');
27      END IF;
28  end;
29  /

```

Trigger created.

SQL> show errors;

No errors.

SQL> @testHW3;

SQL> -- COP4703

SQL> -- Assignment 3

SQL> -- Script to test the triggers

SQL> --

SQL> -- 1\ Arena: ARENA_noDelete_trig

SQL> delete from arena where arena_id = 1;

ARENA_noDelete_trig has fired

delete from arena where arena_id = 1

*

ERROR at line 1:

ORA-20008: Delete operations are not allowed on this table

ORA-06512: at "CMICHALS.ARENA_NODELETE_TRIG", line 3

ORA-04088: error during execution of trigger 'CMICHALS.ARENA_NODELETE_TRIG'

SQL> commit;

Commit complete.

SQL> --

SQL> --

SQL> --

```
SQL> --
SQL> -- 2\ Player: PLAYER_noDelete_trig
SQL> delete from player where player_id = 1;
PLAYER_noDelete_trig has fired
delete from player where player_id = 1
      *
```

ERROR at line 1:
ORA-20009: Delete operations are not allowed on this table
ORA-06512: at "CMICHALS.PLAYER_NODELETE_TRIG", line 3
ORA-04088: error during execution of trigger 'CMICHALS.PLAYER_NODELETE_TRIG'

```
SQL> commit;
```

Commit complete.

```
SQL> --
SQL> --
SQL> --
SQL> --
SQL> -- 3\ Team: TEAM_noDelete_trig
SQL> delete from team where team_id = 1;
TEAM_noDelete_trig has fired
delete from team where team_id = 1
      *
```

ERROR at line 1:
ORA-20010: Delete operations are not allowed on this table
ORA-06512: at "CMICHALS.TEAM_NODELETE_TRIG", line 3
ORA-04088: error during execution of trigger 'CMICHALS.TEAM_NODELETE_TRIG'

```
SQL> commit;
```

Commit complete.

```
SQL> --
SQL> --
SQL> --
SQL> --
SQL> -- 4-a\ Arena:ARENA_BeforInsert_trig. inserting null id
SQL> insert into arena (arena_id, aname, city) values ( '', 'Test', 'Boca');
ARENA_noDuplicateNameCity_trig has fired
ARENA_BeforInsert_trig has fired
```

1 row created.

```
SQL> commit;
```

Commit complete.

```
SQL> --
SQL> --
SQL> --
SQL> --
SQL> -- 4-b\ Arena: ARENA_BeforInsert_trig. insert 0 id
SQL> insert into arena (arena_id, aname, city) values ( 0, 'Test2', 'Boca');
ARENA_noDuplicateNameCity_trig has fired
insert into arena (arena_id, aname, city) values ( 0, 'Test2', 'Boca')
      *
ERROR at line 1:
ORA-20012: Arena name already in use, name: Boca
ORA-06512: at "CMICHALS.ARENA_NODUPLICATENAMECITY_TRIG", line 7
ORA-04088: error during execution of trigger
'CMICHALS.ARENA_NODUPLICATENAMECITY_TRIG'
```

```
SQL> commit;
```

Commit complete.

```
SQL> --
SQL> --
SQL> --
SQL> --
SQL> -- 5\ team: TEAM_noDuplicateName_trig
SQL> insert into TEAM (team_id, tname, rank, city, championships) values ( 7,
'Bulls', 0, 'Boca', 0);
TEAM_noDuplicateName_trig has fired
insert into TEAM (team_id, tname, rank, city, championships) values ( 7,
'Bulls', 0, 'Boca', 0)
      *
ERROR at line 1:
ORA-20011: Team name already in use, name: Bulls
ORA-06512: at "CMICHALS.TEAM_NODUPLICATENAME_TRIG", line 7
ORA-04088: error during execution of trigger
'CMICHALS.TEAM_NODUPLICATENAME_TRIG'
```

```
SQL> commit;
```

Commit complete.

```
SQL> --
SQL> --
SQL> --
SQL> --
SQL> -- 6\ Arena: ARENA_noDuplicateNameCity_trig
SQL> insert into arena (arena_id, aname, city) values ( 10, 'Test', 'Boca');
ARENA_noDuplicateNameCity_trig has fired
insert into arena (arena_id, aname, city) values ( 10, 'Test', 'Boca')
```

```

*
ERROR at line 1:
ORA-20012: Arena name already in use, name: Boca
ORA-06512: at "CMICHALS.ARENA_NODUPLICATENAMECITY_TRIG", line 7
ORA-04088: error during execution of trigger
'CMICHALS.ARENA_NODUPLICATENAMECITY_TRIG'

SQL> commit;

Commit complete.

SQL> --
SQL> --
SQL> --
SQL> --
SQL> -- 7-a\ PLAYER: PLAYER_noNulls_trig. No null in PName
SQL> insert into player (player_id, pname, position, draft_year, retire_year,
education) values ( 9, '', 'point guard', 2010, '', 'Kentucky');
PLAYER_noNulls_trig has fired
Error: Player Name is Null
insert into player (player_id, pname, position, draft_year, retire_year,
education) values ( 9, '', 'point guard', 2010, '', 'Kentucky')
*
ERROR at line 1:
ORA-20013: PLAYER table. Insert operation failed
ORA-06512: at "CMICHALS.PLAYER_NONULLS_TRIG", line 23
ORA-04088: error during execution of trigger 'CMICHALS.PLAYER_NONULLS_TRIG'

SQL> commit;

Commit complete.

SQL> --
SQL> --
SQL> --
SQL> --
SQL> -- 7-b\ PLAYER: PLAYER_noNulls_trig. PName not an empty string.
SQL> insert into player (player_id, pname, position, draft_year, retire_year,
education) values ( 10, ' ', 'point guard', 2010, '', 'Kentucky');
PLAYER_noNulls_trig has fired

1 row created.

SQL> commit;

Commit complete.

SQL> --

```

```

SQL> --
SQL> --
SQL> --
SQL> -- 7-c\ PLAYER: : PLAYER_noNulls_trig. No null in draft_year
SQL> insert into player (player_id, pname, position, draft_year, retire_year,
education) values ( 11, 'John Wall', 'point guard', '', '', 'Kentucky');
PLAYER_noNulls_trig has fired
Error: Draft Year is not valid
insert into player (player_id, pname, position, draft_year, retire_year,
education) values ( 11, 'John Wall', 'point guard', '', '', 'Kentucky')
*
ERROR at line 1:
ORA-20013: PLAYER table. Insert operation failed
ORA-06512: at "CMICHALS.PLAYER_NONULLS_TRIG", line 23
ORA-04088: error during execution of trigger 'CMICHALS.PLAYER_NONULLS_TRIG'

```

```
SQL> commit;
```

Commit complete.

```

SQL> --
SQL> --
SQL> --
SQL> --
SQL> -- 7-d\ PLAYER: : PLAYER_noNulls_trig. draft_year is not zero.
SQL> insert into player (player_id, pname, position, draft_year, retire_year,
education) values ( 12, 'John Wall', 'point guard', 0, '', 'Kentucky');
PLAYER_noNulls_trig has fired
Error: Draft Year is not valid
insert into player (player_id, pname, position, draft_year, retire_year,
education) values ( 12, 'John Wall', 'point guard', 0, '', 'Kentucky')
*
ERROR at line 1:
ORA-20013: PLAYER table. Insert operation failed
ORA-06512: at "CMICHALS.PLAYER_NONULLS_TRIG", line 23
ORA-04088: error during execution of trigger 'CMICHALS.PLAYER_NONULLS_TRIG'

```

```
SQL> commit;
```

Commit complete.

```

SQL> --
SQL> --
SQL> --
SQL> --
SQL> -- 7-e\ PLAYER: : PLAYER_noNulls_trig. No null in education
SQL> insert into player (player_id, pname, position, draft_year, retire_year,
education) values ( 13, 'John Wall', 'point guard', 2010, '', '');

```

```
PLAYER_noNulls_trig has fired
Error: Education Name is Null
insert into player (player_id, pname, position, draft_year, retire_year,
education) values ( 13, 'John Wall', 'point guard', 2010, '', '')
*
ERROR at line 1:
ORA-20013: PLAYER table. Insert operation failed
ORA-06512: at "CMICHALS.PLAYER_NONULLS_TRIG", line 23
ORA-04088: error during execution of trigger 'CMICHALS.PLAYER_NONULLS_TRIG'
```

```
SQL> commit;
```

Commit complete.

```
SQL> --
SQL> --
SQL> --
SQL> --
SQL> -- 7-f\ PLAYER: : PLAYER_noNulls_trig. education is not an empty string
SQL> insert into player (player_id, pname, position, draft_year, retire_year,
education) values ( 14, 'John Wall', 'point guard', 2010, '', ' ');
PLAYER_noNulls_trig has fired
```

1 row created.

```
SQL> commit;
```

Commit complete.

```
SQL> --
SQL> --
SQL> --
SQL> --
SQL> -- 7-g\ PLAYER: : PLAYER_noNulls_trig. retire_year is null
SQL> insert into player (player_id, pname, position, draft_year, retire_year,
education) values ( 15, 'John Wall', 'point guard', 2010, 2020, 'Kentucky');
PLAYER_noNulls_trig has fired
Error: Do not set retire year
insert into player (player_id, pname, position, draft_year, retire_year,
education) values ( 15, 'John Wall', 'point guard', 2010, 2020, 'Kentucky')
*
```

```
ERROR at line 1:
ORA-20013: PLAYER table. Insert operation failed
ORA-06512: at "CMICHALS.PLAYER_NONULLS_TRIG", line 23
ORA-04088: error during execution of trigger 'CMICHALS.PLAYER_NONULLS_TRIG'
```

```
SQL> commit;
```


Commit complete.

SQL> --

SQL> --

SQL> --

SQL> --

SQL> -- 7\ PLAYER: : PLAYER_noNulls_trig.This insert is successful

SQL> insert into player (player_id, pname, position, draft_year, retire_year,
education) values (16, 'John Wall', 'point guard', 2010, '', 'Kentucky');
PLAYER_noNulls_trig has fired

1 row created.

SQL> commit;

Commit complete.

SQL>

SQL>

SQL>

SQL>

SQL> SPOOL off;

```
cmichals@oraclelinux:~
SQL> commit;

Commit complete.

SQL> SPOOL homework3.txt;
SQL> set SERVEROUTPUT on;
SQL> @hw3;
SQL> -- Problem 1
SQL> create      or replace  trigger ARENA_noDelete_trig
  2     before delete
  3     on ARENA
  4     begin
  5         DBMS_OUTPUT.put_line('ARENA_noDelete_trig has fired');
  6         raise_application_error(-20008, 'Delete operations are not allowed on thi
s table');
  7     end;
  8     /

Trigger created.

SQL> -- Problem 2
SQL> create      or replace  trigger PLAYER_noDelete_trig
  2     before delete
  3     on PLAYER
  4     begin
  5         DBMS_OUTPUT.put_line('PLAYER_noDelete_trig has fired');
  6         raise_application_error(-20009, 'Delete operations are not allowed on thi
s table');
  7     end;
  8     /

Trigger created.

SQL> -- Problem 3
SQL> create      or replace  trigger TEAM_noDelete_trig
  2     before delete
  3     on TEAM
  4     begin
  5         DBMS_OUTPUT.put_line('TEAM_noDelete_trig has fired');
  6         raise_application_error(-20010, 'Delete operations are not allowed on thi
s table');
  7     end;
  8     /

Trigger created.

SQL> -- Problem 4
SQL> create      or replace  trigger ARENA_BeforInsert_trig
  2     before INSERT on ARENA
  3     FOR EACH ROW
  4     begin
  5         DBMS_OUTPUT.put_line('ARENA_BeforInsert_trig has fired');
  6         If (:new.ARENA_ID = 0 OR :new.ARENA_ID IS NULL) Then
  7             select max(ARENA_ID)+1 into :new.ARENA_ID from ARENA;
  8         end if;
  9     end;
 10     /

Trigger created.

SQL> -- Problem 5
SQL> create      or replace  trigger TEAM_noDuplicateName_trig
```



cmichals@oraclelinux:~



Trigger created.

```
SQL> -- Problem 6
SQL> create or replace trigger ARENA_noDuplicateNameCity_trig
  2 before INSERT on ARENA
  3 FOR EACH ROW
  4 DECLARE
  5 arenaCount int;
  6 begin
  7 DBMS_OUTPUT.put_line('ARENA_noDuplicateNameCity_trig has fired');
  8 select count(*) into arenaCount from ARENA where CITY = :new.CITY;
  9 if (arenaCount != 0) THEN
10 raise_application_error(-20012, 'Arena name already in use,
name: '||:new.CITY);
11 END IF;
12 end;
13 /
```

Trigger created.

```
SQL> -- Problem 7
SQL> create or replace trigger PLAYER_noNulls_trig
  2 before INSERT on PLAYER
  3 FOR EACH ROW
  4 DECLARE
  5 errorCount int;
  6 begin
  7 DBMS_OUTPUT.put_line('PLAYER_noNulls_trig has fired');
  8 errorCount := 0;
  9 If (:new.PNAME = '' OR :new.PNAME IS NULL) Then
10 errorCount := errorCount + 1;
11 DBMS_OUTPUT.put_line('Error: Player Name is Null');
12 END IF;
13 If (:new.EDUCATION = '' OR :new.EDUCATION IS NULL) Then
14 errorCount := errorCount + 1;
15 DBMS_OUTPUT.put_line('Error: Education Name is Null');
16 END IF;
17 If (:new.DRAFT_YEAR = 0 OR :new.DRAFT_YEAR IS NULL) Then
18 errorCount := errorCount + 1;
19 DBMS_OUTPUT.put_line('Error: Draft Year is not valid');
20 END IF;
21 If (:new.retire_year IS NOT NULL) Then
22 errorCount := errorCount + 1;
23 DBMS_OUTPUT.put_line('Error: Do not set retire year');
24 END IF;
25 if (errorCount != 0) THEN
26 raise_application_error(-20013, 'PLAYER table. Insert opera
tion failed');
27 END IF;
28 end;
29 /
```

Trigger created.

```
SQL> show errors;
No errors.
SQL> @testHW3;
SQL> -- COP4703
SQL> -- Assignment 3
SQL> -- Script to test the triggers
SQL> --
```

```
cmichals@oraclelinux:~
SQL> --
SQL> -- 1\ Arena: ARENA_noDelete_trig
SQL> delete from arena where arena_id = 1;
ARENA_noDelete_trig has fired
delete from arena where arena_id = 1
*
ERROR at line 1:
ORA-20008: Delete operations are not allowed on this table
ORA-06512: at "CMICHALS.ARENA_NODELETE_TRIG", line 3
ORA-04088: error during execution of trigger 'CMICHALS.ARENA_NODELETE_TRIG'

SQL> commit;

Commit complete.

SQL> --
SQL> --
SQL> --
SQL> --
SQL> -- 2\ Player: PLAYER_noDelete_trig
SQL> delete from player where player_id = 1;
PLAYER_noDelete_trig has fired
delete from player where player_id = 1
*
ERROR at line 1:
ORA-20009: Delete operations are not allowed on this table
ORA-06512: at "CMICHALS.PLAYER_NODELETE_TRIG", line 3
ORA-04088: error during execution of trigger 'CMICHALS.PLAYER_NODELETE_TRIG'

SQL> commit;

Commit complete.

SQL> --
SQL> --
SQL> --
SQL> --
SQL> -- 3\ Team: TEAM_noDelete_trig
SQL> delete from team where team_id = 1;
TEAM_noDelete_trig has fired
delete from team where team_id = 1
*
ERROR at line 1:
ORA-20010: Delete operations are not allowed on this table
ORA-06512: at "CMICHALS.TEAM_NODELETE_TRIG", line 3
ORA-04088: error during execution of trigger 'CMICHALS.TEAM_NODELETE_TRIG'

SQL> commit;

Commit complete.

SQL> --
SQL> --
SQL> --
SQL> --
SQL> -- 4-a\ Arena:ARENA_BeforInsert_trig. inserting null id
SQL> insert into arena (arena_id, aname, city) values ( '', 'Test', 'Boca');
ARENA_noDuplicateNameCity_trig has fired
ARENA_BeforInsert_trig has fired
```

```
cmichals@oraclelinux:~
SQL> commit;

Commit complete.

SQL> --
SQL> --
SQL> --
SQL> --
SQL> -- 7-f\ PLAYER: : PLAYER_noNulls_trig. education is not an empty string
SQL> insert into player (player_id, pname, position, draft_year, retire_year, education) values ( 14, 'John Wall', 'point guard', 2010, '', ' ');
PLAYER_noNulls_trig has fired

1 row created.

SQL> commit;

Commit complete.

SQL> --
SQL> --
SQL> --
SQL> --
SQL> -- 7-g\ PLAYER: : PLAYER_noNulls_trig. retire_year is null
SQL> insert into player (player_id, pname, position, draft_year, retire_year, education) values ( 15, 'John Wall', 'point guard', 2010, 2020, 'Kentucky');
PLAYER_noNulls_trig has fired
Error: Do not set retire year
insert into player (player_id, pname, position, draft_year, retire_year, education) values ( 15, 'John Wall', 'point guard', 2010, 2020, 'Kentucky')
*
ERROR at line 1:
ORA-20013: PLAYER table. Insert operation failed
ORA-06512: at "CMICHALS.PLAYER_NONULLS_TRIG", line 23
ORA-04088: error during execution of trigger 'CMICHALS.PLAYER_NONULLS_TRIG'

SQL> commit;

Commit complete.

SQL> --
SQL> --
SQL> --
SQL> --
SQL> -- 7\ PLAYER: : PLAYER_noNulls_trig.This insert is successful
SQL> insert into player (player_id, pname, position, draft_year, retire_year, education) values ( 16, 'John Wall', 'point guard', 2010, '', 'Kentucky');
PLAYER_noNulls_trig has fired

1 row created.

SQL> commit;

Commit complete.

SQL>
SQL>
SQL>
SQL>
SQL> SPOOL off;
SQL>
```

