

Assignment No:07

Problem Statement: Database Trigger (All Types: Row level and statement level triggers, Before and After Trigger). Write a database trigger on library table. The system should keep track of the records that are being updated or deleted. The old value of updated or deleted records.

--Creation of library table

```
SQL> create table library(ID int primary key,B_name varchar(20),
Author varchar(20),price int);
```

Table Created

```
SQL> insert into library values(1,'Ikigai','Hector Gracia',250);
```

```
SQL> insert into library values(2,'Atomic Habits', 'James
clear',150);
```

```
SQL> insert into library values(3,'You Can','Shiv Khera',220);
```

```
SQL> select * from library;
```

ID	B_NAME	AUTHOR	PRICE
1	Ikigai	Hector Gracia	250
2	Atomic Habits	James clear	150
3	You Can	Shiv Khera	220

--Creation of Library_Audit table

```
SQL>create table library_audit(ID int ,B_name varchar(20),Author
varchar(20),Price int,Action varchar(20),changeDate date);
```

--Implementing Trigger Audit_change on Library table

```
SQL> create or replace trigger Audit_change
```

```
2 after update or delete on library
```

```
3 for each row enable
```

```

4 BEGIN
5  if DELETING then
6    insert into library_audit values (:OLD.ID, :OLD.B_name,
:OLD.Author,:OLD.Price,'DELETE',SYSTIMESTAMP);
7  end if;
8  if UPDATING then
9    insert into library_audit values (:OLD.ID, :OLD.B_name,
:OLD.Author,:OLD.Price,'Update',SYSTIMESTAMP);
10 end if;
11 end;
12 /

```

Trigger created.

--Update Operation

```
SQL> update library set price=350 where ID=1;
```

1 row updated.

```
SQL> select * from library;
```

ID	B_NAME	AUTHOR	PRICE
1	Ikigai	Hector Gracia	350
2	Atomic Habits	James clear	150
3	You Can	Shiv Khera	220

--After update The Trigger Audit_change get automatically fired

```
SQL> select * from library_audit;
```

ID	B_NAME	AUTHOR	PRICE	ACTION	CHANGEDAT
1	Ikigai	Hector Gracia	250	Update	02-OCT-24

```
SQL> update library set Author='George Adamas' where Id=3;
1 row updated.
```

```
SQL> select * from library;
```

ID	B_NAME	AUTHOR	PRICE
1	Ikigai	Hector Gracia	350
2	Atomic Habits	James clear	150
3	You Can	George Adamas	220

```
SQL> select * from library_audit;
```

ID	B_NAME	AUTHOR	PRICE	ACTION	CHANGEDAT
1	Ikigai	Hector Gracia	250	Update	02-OCT-24
3	You can	Shiv Khera	220	Update	02-OCT-24

--Delete Operation

```
SQL> delete from library where ID=1;
1 row deleted.
```

```
SQL> select * from library;
```

ID	B_NAME	AUTHOR	PRICE
2	Atomic Habits	James clear	150
3	You Can	George Adamas	220

```
SQL> select * from library_audit;
```

ID	B_NAME	AUTHOR	PRICE	ACTION	CHANGEDAT
-----	-----	-----	-----	-----	-----
1	Ikigai	Hector Gracia	250	Update	02-OCT-24
3	You can	Shiv Khera	220	Update	02-OCT-24
1	Ikigai	Hector Gracia	350	DELETE	02-OCT-24