

SCHOOL OF ENGINEERING
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

LAB-5

REPORT



COMP 232

Submitted By

Anish Manandhar

Submitted To

Dr. Rajani Chulyadyo

Student table which is created using following query:

Data Output	Explain	Messages	Notifications						
	id [PK] integer	username character varying (20)	email character varying (50)	first_name character varying (20)	last_name character varying (20)	full_name character varying (20)	dob date	age integer	
1	1	Aayam	aayam_adhikari@gmail.com	Aayam	Adhikari	[null]	2000-02-23	[null]	
2	2	Nirbhu	nirbhaya_adhikari@gmail.com	Nirbhaay	Adhikari	[null]	2002-01-13	[null]	
3	3	Saugat	saugat_adhikari@gmail.com	Saugat	Adhikari	[null]	1999-10-11	[null]	

```
DROP TABLE IF EXISTS Student;
CREATE TABLE Student(
    Id int,
    Username varchar(20),
    Email varchar(50),
    First_name varchar(20),
    Last_name varchar(20),
    Full_name varchar(20),
    DOB DATE NOT NULL,
    Age int,
    PRIMARY KEY (ID)
);
```

	fullname character varying
1	Aayam Adhikari

```
-- 3.1. Function that returns the full name of the user with the given ID
CREATE OR REPLACE FUNCTION fullname(uid INTEGER)
    RETURNS character varying
    AS
    $$
    DECLARE
        fname CHARACTER VARYING;
        lname CHARACTER VARYING;
    BEGIN
        SELECT First_name ,Last_name INTO fname,lname FROM Student WHERE ID =
uid;

        RETURN fname || ' ' || lname;
    END;
    $$ LANGUAGE plpgsql;

SELECT fullname (1);
```

	total_user integer
1	3

```
--      3.2.      Function that returns the number of users
DROP FUNCTION IF EXISTS countuser();
CREATE OR REPLACE FUNCTION countuser()
    RETURNS int
    AS
    $$
    DECLARE
        total int;
    BEGIN
        SELECT COUNT(*) INTO total FROM Student;

        RETURN total;
    END;
    $$ LANGUAGE plpgsql;

SELECT countuser() AS total_user;
```

	age
	integer
1	22

```
DROP FUNCTION IF EXISTS age(integer);
CREATE OR REPLACE FUNCTION age(uid INTEGER)
    RETURNS int
    AS
    $$
    DECLARE
        student_age int;
    BEGIN
        SELECT date_part('year',AGE(dob)) Into student_age FROM Student
WHERE ID = uid;

        RETURN student_age;
    END;
    $$ LANGUAGE plpgsql;

SELECT age(3);
SELECT * FROM Student;
```










	id	username	email	first_name	last_name	full_name	dob	age
	[PK] integer	character varying (20)	character varying (50)	character varying (20)	character varying (20)	character varying (20)	date	integer
1	1	Aayam	aayam_adhikari@gmail.com	Aayam	Adhikari	[null]	2000-02-23	[null]
2	2	Nirbhu	nirbhaya_adhikari@gmail.com	Nirbhaay	Adhikari	[null]	2002-01-13	[null]
3	3	Saugat	saugat_adhikari@gmail.com	Saugat	Adhikari	[null]	1999-10-11	[null]

The disadvantage of the function is immediate effect is not seen

	id [PK] integer	username character varying (20)	email character varying (50)	first_name character varying (20)	last_name character varying (20)	full_name character varying (20)	dob date	age integer
1	1	Aayam	aayam_adhikari@gmail.com	Aayam	Adhikari	Aayam Adhikari	2000-02-23	22
2	2	Nirbhu	nirbhaya_adhikari@gmail.com	Nirbhaay	Adhikari	Nirbhaay Adhikari	2002-01-13	20
3	3	Saugat	saugat_adhikari@gmail.com	Saugat	Adhikari	Saugat Adhikari	1999-10-11	22

	id [PK] integer	username character varying (20)	email character varying (50)	first_name character varying (20)	last_name character varying (20)	full_name character varying (20)	dob date	age integer
1	1	Aayam	aayam_adhikari@gmail.com	Aayam	Adhikari	Aayam Adhikari	2000-02-23	22
2	2	Nirbhu	nirbhaya_adhikari@gmail.com	Nirbhaay	Adhikari	Nirbhaay Adhikari	2002-01-13	20
3	3	Saugat	saugat_adhikari@gmail.com	Saugat	Adhikari	Saugat Adhikari	1999-10-11	22
4	12	avaya	avaya.bajracharya@gmail.com	Avaya	Bajracharya	Avaya Bajracharya	2002-05-10	[null]

Due to trigger it can be seen that Avaya's tuple already has full name without inserting it

Data Output	Explain	Messages	Notifications					
 id [PK] integer 	username character varying (20) 	email character varying (50) 	first_name character varying (20) 	last_name character varying (20) 	full_name character varying (20) 	dob date 	age integer 	
1	1 Aayam	aayam_adhikari@gmail.com	Aayam	Adhikari	Aayam Adhikari	2000-02-23	22	
2	2 Nirbhu	nirbhaya_adhikari@gmail.com	Nirbhaay	Adhikari	Nirbhaay Adhikari	2002-01-13	20	
3	3 Saugat	saugat_adhikari@gmail.com	Saugat	Adhikari	Saugat Adhikari	1999-10-11	22	
4	12 avaya	avaya.bajrachary@gmail.com	Avaya	Bajracharya	Avaya Bajracharya	2002-05-10	[null]	
5	13 avaya	avaya.bajrachary@gmail.com	Avaya	Bajracharya	Avaya Bajracharya	2002-05-10	20	

Similarly the trigger for age works accordingly

AS the data with id 12 and 13 are redundant lets update it and hold the log information in our table user_logs

	id [PK] integer	old_value character varying (20)	new_value character varying (20)	description character varying (20)	log_time timestamp without time zone
1	1	Bajracharya	Manandhar	LAST NAME UPDATED	2022-04-17 10:15:03.013481
2	2	Avaya	Anish	FIRST NAME UPDATED	2022-04-17 10:15:03.013481

```
UPDATE Student SET last_name = 'Manandhar' where id =13;
```

```
UPDATE Student SET first_name = 'Anish' where id =13;``
```