# Problem #1 - SQL

Given the following tables…

PERSON

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PK person\_id NUMBER(10) NOT NULL

first\_name VARCHAR2(100)

preferred\_first\_name VARCHAR2(100)

last\_name VARCHAR2(100) NOT NULL

date\_of\_birth DATE

hire\_date DATE

occupation VARCHAR2(1)

ADDRESS

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PK address\_id NUMBER(10) NOT NULL

FK person\_id NUMBER(10) NOT NULL

address\_type VARCHAR2(4) NOT NULL

street\_line\_1 VARCHAR2(100)

city VARCHAR2(100)

state VARCHAR2(100)

zip\_code VARCHAR2(30)

I have created PERSON and ADDRESS tables and inserted few sample records using w3schools SQL Editor.

/\* Create a table called PERSON \*/

create table PERSON (

person\_id NUMBER(10) NOT NULL PRIMARY KEY,

first\_name VARCHAR2(100),

preferred\_first\_name VARCHAR2(100),

last\_name VARCHAR2(100) NOT NULL,

date\_of\_birth DATE,

hire\_date DATE,

occupation VARCHAR2(1)

);

/\* Create a table called ADDRESS \*/

create table ADDRESS (

address\_id NUMBER(10) NOT NULL,

person\_id NUMBER(10) NOT NULL,

address\_type VARCHAR2(4) NOT NULL,

street\_line\_1 VARCHAR2(100),

city VARCHAR2(100),

state VARCHAR2(100),

zip\_code VARCHAR2(30),

PRIMARY KEY (address\_id),

FOREIGN KEY (person\_id) REFERENCES Person(person\_id)

);

/\* Insert few records in PERSON table \*/

insert into person values(1,'suresh reddy','suresh','singireddy','1992-06-05','2019-01-17','Software Developer');

insert into person values(2,'samul','sam','adam','1989-11-01','2018-01-11',NULL);

insert into person values(3,'mark','mark','randy','1990-05-11','2018-01-12','Analyst');

insert into person values(4,'Tom',null,'Bruce','1988-02-01','2019-01-01','Tech Lead');

/\* Insert few records in ADDRESS table \*/

insert into address values (1,1,'HOME','89 Lyon Circle','Clifton', 'VA','12345');

insert into address values (2,2,'HOME','212 Maple Ave','Manassas', 'VA','22033');

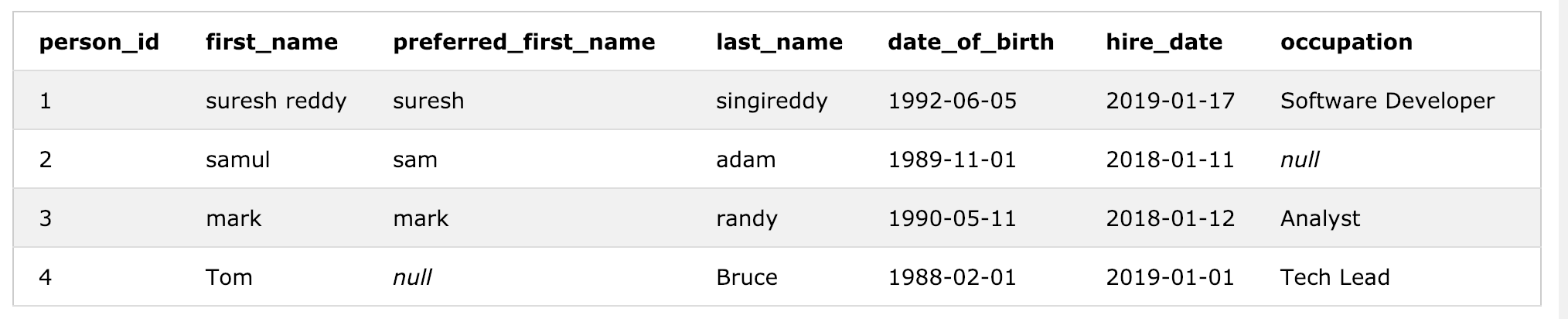
insert into address values (3,1,'BILL','25 Science Park','New Haven', 'CT','06511');

insert into address values (4,2,'BILL','275 Winchester Ave','New Haven', 'CT','06511');

insert into address values (5,3,'HOME','9405 White Cedar Dr','Owings Mills', 'MA','21117');

/\* Display all the records from PERSON table \*/

SELECT \* FROM PERSON;



/\* Display all the records from ADDRESS table \*/

SELECT \* FROM ADDRESS;



1. Write a query to select all rows from *person*. If the person row has a value in *preferred\_first\_name*, select the preferred name instead of the value in *first name*. Alias the column as *REPORTING\_NAME*.

SELECT

CASE WHEN preferred\_first\_name IS NOT NULL

THEN preferred\_first\_name

ELSE first\_name

END AS REPORTING\_NAME

FROM PERSON;



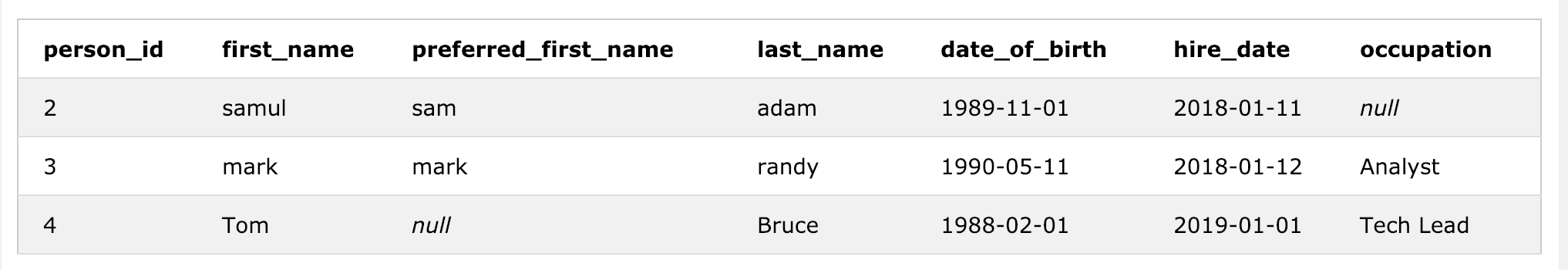
1. Write a query to select all rows from person that have a NULL occupation.

SELECT \* FROM person WHERE occupation IS NULL;



1. Write a query to select all rows from *person* that have a *date\_of\_birth* before August 7th, 1990.

SELECT \* FROM person WHERE date\_of\_birth <'1990-08-07';



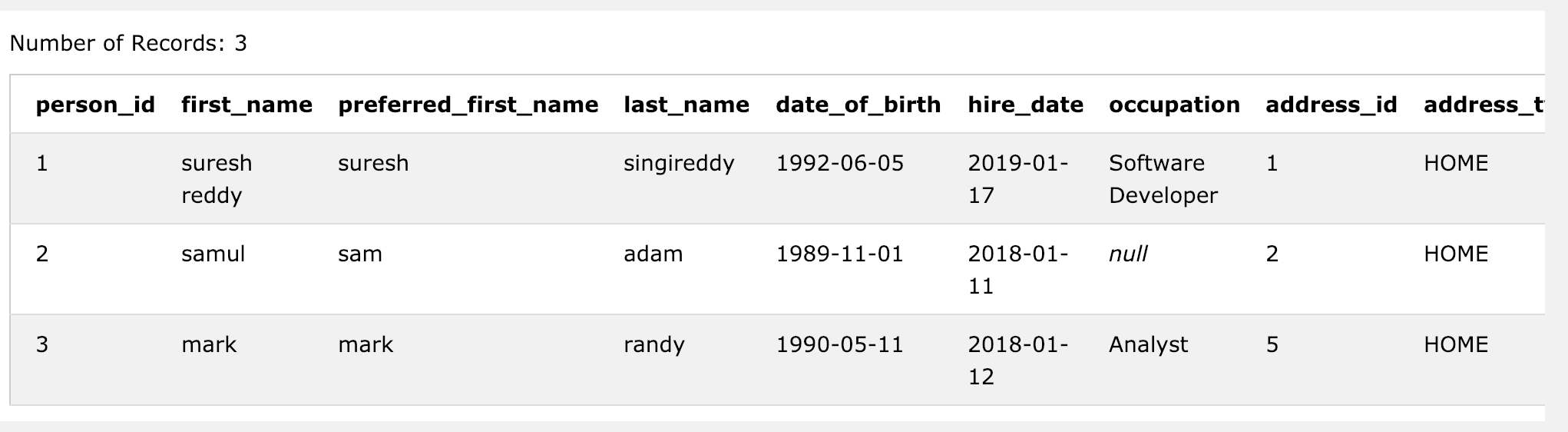
1. Write a query to select all rows from *person* that have a *hire\_date* in the past 100 days.

SELECT \* FROM PERSON WHERE HIRE\_DATE >= DATE('now','-100 day');



1. Write a query to select rows from person that also have a row in address with address\_type = 'HOME'

Select \* From PERSON P JOIN ADDRESS A ON P.person\_id=A.person\_id WHERE a.address\_type='HOME';

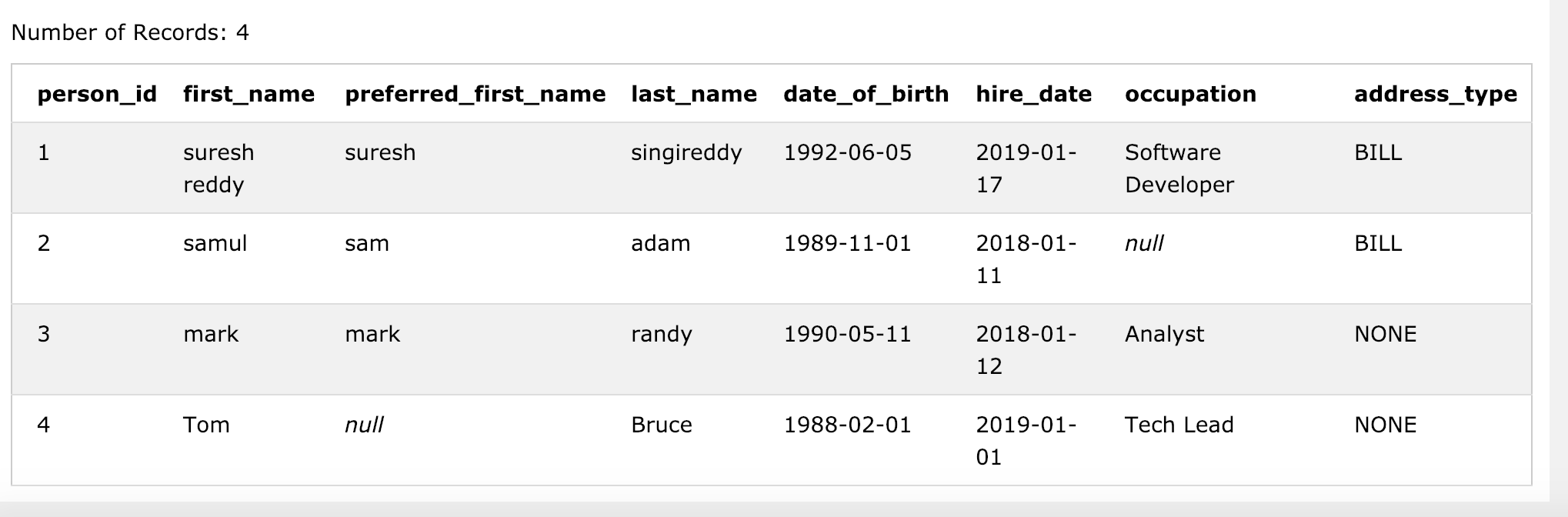


1. Write a query to select all rows from person and only those rows from address that have a matching billing address (address\_type = 'BILL'). If a matching billing address does not exist, display 'NONE' in the address\_type column.

SELECT P.\*, CASE WHEN A. address\_type IS NULL

THEN 'NONE' ELSE address\_type END AS address\_type

FROM PERSON P LEFT OUTER JOIN ADDRESS A ON P.person\_id=A.person\_id AND a. address\_type = 'BILL';



1. Write a query to count the number of addresses per address type.

Output:

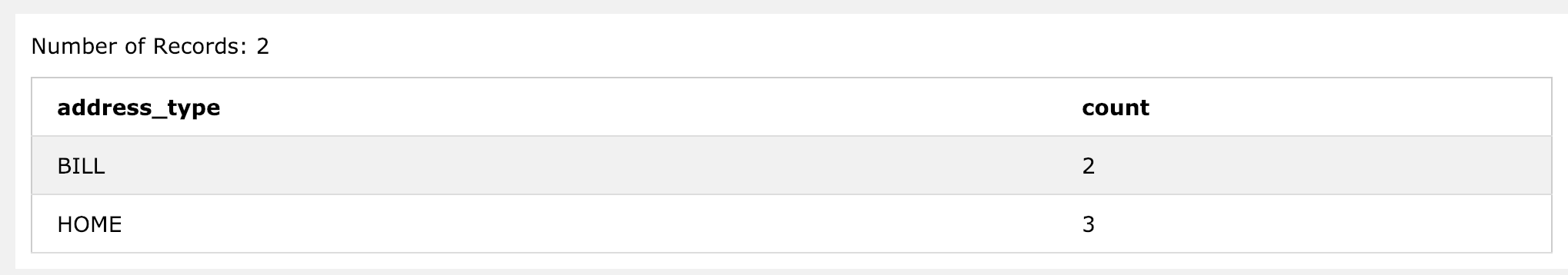
**address\_type count**

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HOME 99

BILL 150

SELECT address\_type, COUNT(\*) AS count FROM ADDRESS GROUP BY address\_type;



1. Write a query to select data in the following format:

**last\_name home\_address billing\_address**

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Smith 89 Lyon Circle, Clifton, VA 12345 25 Science Park, New Haven, CT 06511

Jones 212 Maple Ave, Manassas, VA 22033 275 Winchester Ave, New Haven, CT 06511

/\*using joins \*/

SELECT p.last\_name,

CASE WHEN a.ADDRESS\_type='HOME' THEN a.street\_line\_1||','||a.city||','||a.state||','||a.zip\_code END

AS home\_address,

CASE WHEN b.ADDRESS\_type='BILL' THEN b.street\_line\_1||','||b.city||','||b.state||','||b.zip\_code END

AS billing\_address

FROM person p JOIN address a ON p.person\_id=a.person\_id

JOIN address b ON a.person\_id=b.person\_id

WHERE a.ADDRESS\_type='HOME' AND b.ADDRESS\_type='BILL'

GROUP BY a.person\_id

/\* using CTE \*/

WITH adress\_value AS (

SELECT a.person\_Id,

CASE WHEN a.ADDRESS\_type='HOME' THEN a.street\_line\_1||','||a.city||','||a.state||','||a.zip\_code

END AS home\_address ,

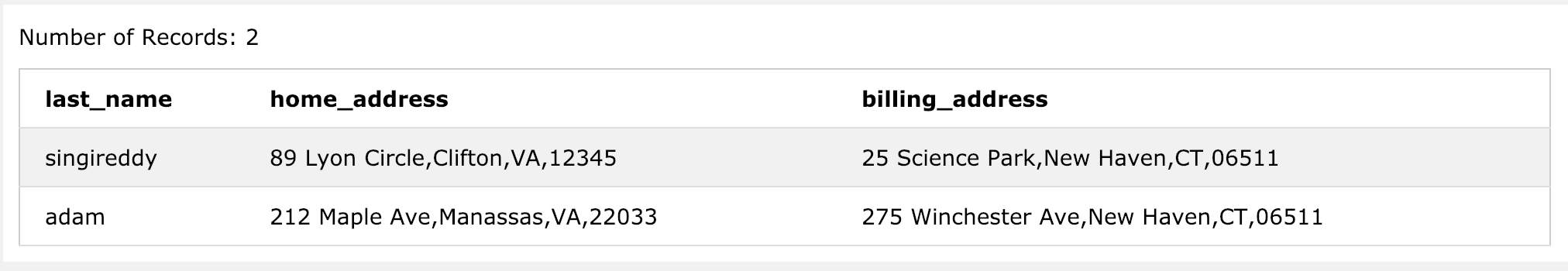
CASE WHEN b.ADDRESS\_type='BILL' THEN b.street\_line\_1||','||b.city||','||b.state||','||b.zip\_code

END AS billing\_address

FROM address a JOIN address b ON a.person\_id=b.person\_id WHERE a.ADDRESS\_type='HOME' AND b.ADDRESS\_type='BILL'

GROUP BY a.person\_Id )

SELECT p.last\_name, a.home\_address,a.billing\_address FROM person p JOIN adress\_value a ON a.person\_id=p.person\_id;

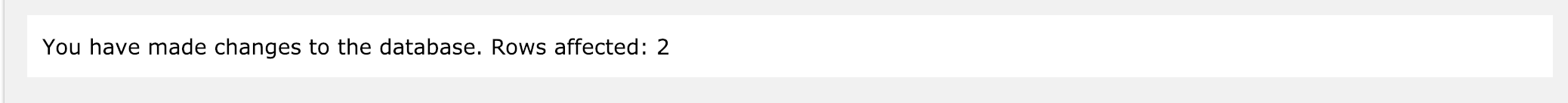


1. Write a query to update the person.occupation column to ‘X’ for all rows that have a ‘BILL’ address in the address table.

UPDATE person

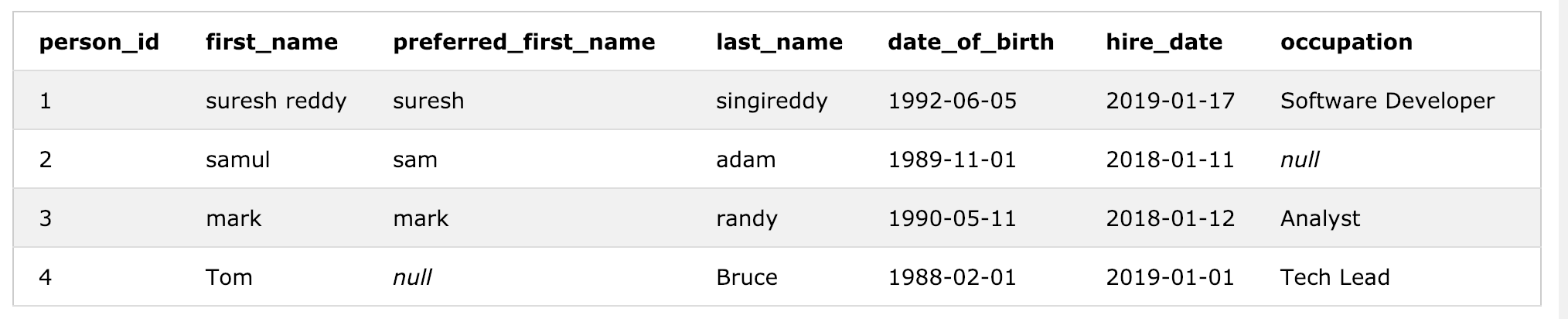
SET occupation='X'

WHERE person\_id IN (SELECT person\_id FROM address WHERE address\_type='BILL');



Before Update:

SELECT \* FROM PERSON;



After Update:

SELECT \* FROM PERSON;

