

Exercise 11

S1260027

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Q1 Annual interest is paid by increasing balance by 5 % for accounts with balance more than '500'. Please update the relation and check values after update. Exit psql and reload psql. Please check the contents of the table.

Before update:

```
s1260027=# Select * from account;
```

account_number	branch_name	balance
A-215	Mianus	700
A-201	Brighton	900
A-222	Redwood	700
A-217	Brighton	750
A-101	Downtown	500
A-102	Perryridge	400
A-305	Round Hill	350

(7 rows)

After update:

SQL: UPDATE account set balance = balance * 1.05 where balance >= 500;

```
s1260027=# Select * from account;
```

account_number	branch_name	balance
A-102	Perryridge	400
A-305	Round Hill	350
A-215	Mianus	735
A-201	Brighton	945
A-222	Redwood	735
A-217	Brighton	788
A-101	Downtown	525

(7 rows)

Q2 QUERIES : Use "LIKE"/"NOT LIKE" predicate.

- (a) Find all branches where city name begins with 'B',

SQL: Select * from branch where branch_name like 'B%';

Result:

```
s1260027=# Select * from branch where branch_name like 'B%';
  branch_name | branch_city | assets
-----+-----+-----
 Brighton    | Brooklyn   | 7100000
(1 row)
```

- (b) Find all branches where city name begins with characters other than 'B'

SQL: Select * from branch where branch_name not like 'B%';

Result:

```
s1260027=# Select * from branch where branch_name not like 'B%';
  branch_name | branch_city | assets
-----+-----+-----
 Downtown    | Brooklyn   | 9000000
 Redwood     | Palo Alto  | 2100000
 Perryridge  | Horseneck  | 400000
 Round Hill  | Horseneck  | 8000000
 Pownal      | Bennington | 300000
 North Town  | Rye        | 3700000
(6 rows)
```

Q3 Find all customers who have an account at all branches located in city 'Brooklyn'. (Please see OHPs for divide)

Algebra : $\Pi_{c_n, b_n}(D \bowtie A) \div \Pi_{b_n} \sigma_{b_c='Brooklyn'}(B)$

SQL :

```
SELECT distinct S.customer_name FROM depositor as S
WHERE not exists (
    (SELECT branch_name
     FROM branch
     WHERE branch_city = 'Brooklyn')
    EXCEPT
    (SELECT R.branch_name
     FROM depositor as T, account as R
     WHERE T.account_number = R.account_number and
           S.customer_name = T.customer_name ));
```

Result:

customer_name
Johnson
(1 row)