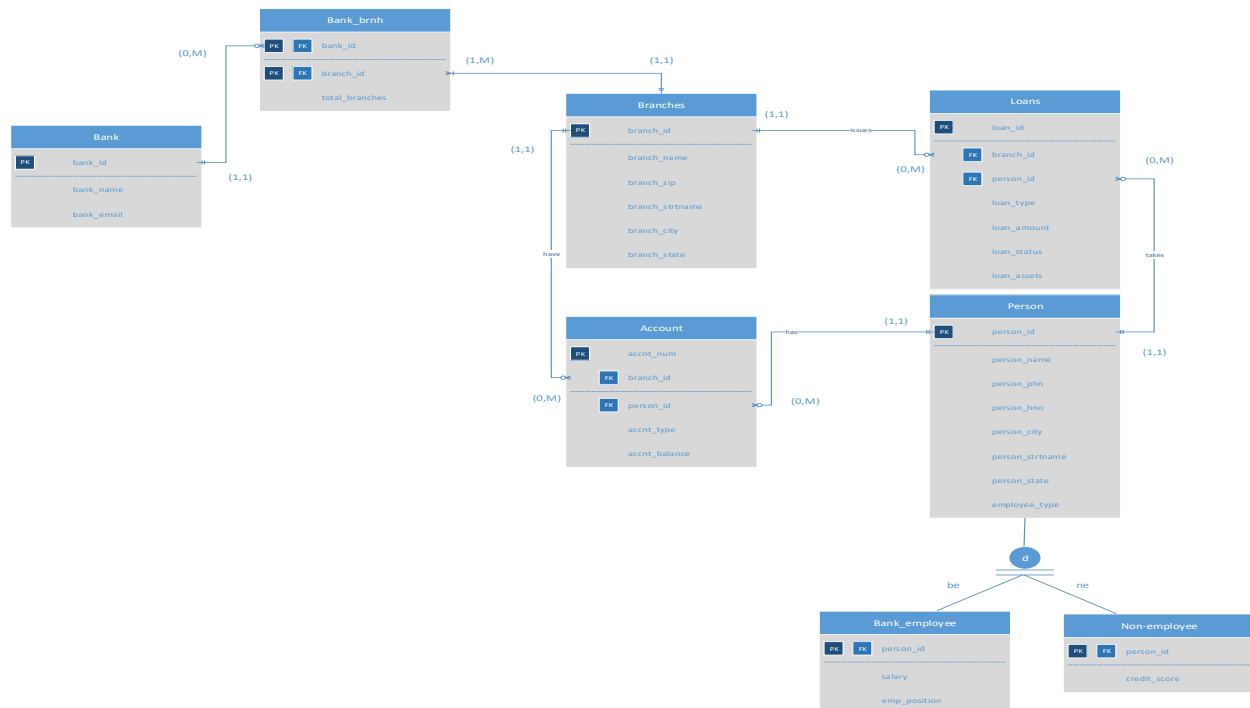


AIT-524-002
Database Management Systems
Assignment-10
SUJAN CHAVA
George Mason University

ER-DIAGRAM:



- 1) Write a SQL code to join two tables using the WHERE statement. Explain what the query is intended to do.

Retrieve id, name, phone number and city of the persons who have applied for loan.

Worksheet Query Builder

```
select person.person_id, person_name, person_phn, person_city from loans ,person where loans.person_id=person.person_id
```

SUJAN CHAVA

Query Result x

All Rows Fetched: 3 in 0.031 seconds

	PERSON_ID	PERSON_NAME	PERSON_PHN	PERSON_CITY
1	111	Venkat Anmula	5714889290	Fairfax
2	211	Vamsi Gunala	5714884930	Herndon
3	221	Sujan Chava	5321884930	Las Vegas

- 2) Repeat problem 1 using the JOIN ... USING keywords.

Worksheet Query Builder

```
select person_id, person_name, person_phn, person_city from loans JOIN person USING (person_id)
```

SUJAN CHAVA

Query Result x

SQL | All Rows Fetched: 3 in 0.016 seconds

	PERSON_ID	PERSON_NAME	PERSON_PHN	PERSON_CITY
1	111	Venkat Anmula	5714889290	Fairfax
2	211	Vamsi Gunala	5714884930	Herndon
3	221	Sujan Chava	5321884930	Las Vegas

- 3) Repeat problem 1 using the JOIN ... ON keywords.

Worksheet Query Builder

```
select person.person_id, person_name, person_phn, person_city from loans JOIN person ON loans.person_id=person.person_id
```

SUJAN CHAVA

Query Result x

SQL | All Rows Fetched: 3 in 0.018 seconds

	PERSON_ID	PERSON_NAME	PERSON_PHN	PERSON_CITY
1	111	Venkat Anmula	5714889290	Fairfax
2	211	Vamsi Gunala	5714884930	Herndon
3	221	Sujan Chava	5321884930	Las Vegas

- 4) Repeat problem 1 but add at least two conditions in the WHERE statement and use an arithmetic and a special operator. Use logical operators to combine multiple conditions. Explain what the query is intended to do.


Retrieve the id, name, phone number, and city of the persons who have applied for housing and car loans and having the loan amount to loan assets ratio greater than or equal to 2.


Worksheet

Query Builder

```
select p.person_id,person_name,person_phn,person_city from loans l,person p where p.person_id=l.person_id AND l.loan_amount/l.loan_assets >=2 AND l.loan_type IN('Housing','Car')
```

SUJAN CHAVA

 Query Result x

 | All Rows Fetched: 2 in 0.066 seconds

PERSON_ID	PERSON_NAME	PERSON_PHN	PERSON_CITY
1	111 Venkat Anmula	5714889290	Fairfax
2	211 Vamsi Gunala	5714884930	Herndon

- 5) Repeat problem 2 but add two more conditions in the WHERE statement and use an arithmetic and a special operator which are different from the ones you used in the previous query. Use logical operators to combine multiple conditions. Explain what the query is intended to do.

Retrieve the id, name, phone, city of the persons whose name ends with 'a' and difference between loan amount and assets is less than 10000.

Worksheet

Query Builder

```
select person_id,person_name,person_phn,person_city from loans JOIN person USING(person_id) where loan_amount-loan_assets< 10000
AND person_name LIKE '%a'
```

SUJAN CHAVA

Query Result x

SQL | All Rows Fetched: 1 in 0.019 seconds

PERSON_ID	PERSON_NAME	PERSON_PHN	PERSON_CITY
1	211 Vamsi Gunala	5714884930	Herndon

- 6) Write a SQL code to join three tables using the WHERE statement. Explain what the query is intended to do.

Retrieve name, loan amount applied and account balance of the persons who have account and applied for loan.

The screenshot shows a SQL query builder interface with a 'Query Builder' tab. The query text is: `select person_name,loan_amount,acct_balance from person,loans,account where person.person_id=loans.person_id AND person.person_id=account.person_id`. Below the query text, the name 'SUJAN CHAVA' is entered. The 'Query Result' tab is active, showing a table with 3 rows and 3 columns: PERSON_NAME, LOAN_AMOUNT, and ACCNT_BALANCE. The data is as follows:

	PERSON_NAME	LOAN_AMOUNT	ACCNT_BALANCE
1	Venkat Anmula	100000	4000
2	Vamsi Gunala	5000	3000
3	Sujan Chava	50000	2000

- 7) Repeat problem 6 using JOIN....USING.... keywords.

The screenshot shows a SQL query builder interface with a 'Query Builder' tab. The query text is: `select person_name,loan_amount,acct_balance from person JOIN loans USING(person_id) JOIN account USING(person_id)`. Below the query text, the name 'SUJAN CHAVA' is entered. The 'Query Result' tab is active, showing a table with 3 rows and 3 columns: PERSON_NAME, LOAN_AMOUNT, and ACCNT_BALANCE. The data is as follows:

	PERSON_NAME	LOAN_AMOUNT	ACCNT_BALANCE
1	Venkat Anmula	100000	4000
2	Vamsi Gunala	5000	3000
3	Sujan Chava	50000	2000

- 8) Repeat problem 6 using JOIN....ON... keywords.

Worksheet Query Builder

```
select person_name, loan_amount, acct_balance from person JOIN loans ON person.person_id=loans.person_id
JOIN account ON person.person_id=account.person_id
```

SUJAN CHAVA

Query Result x

SQL | All Rows Fetched: 3 in 0.055 seconds

	PERSON_NAME	LOAN_AMOUNT	ACCT_BALANCE
1	Venkat Anmula	100000	4000
2	Vamsi Gunala	5000	3000
3	Sujan Chava	50000	2000

- 9) Repeat problem 6 but add at least two conditions in the WHERE statement and use an arithmetic and a special operator. Use logical operators to combine multiple conditions. Explain what the query is intended to do.

Retrieve name, loan amount and account balance of the persons who have applied for loan amount greater than 20000 and less than 100000 and having the loan amount less than sum of loan assets and account balance.

Worksheet Query Builder

```
select person_name, loan_amount, acct_balance from person, loans, account where person.person_id=loans.person_id AND person.person_id=account.person_id
AND loan_assets + acct_balance < loan_amount AND loan_amount BETWEEN 20000 AND 100000
```

SUJAN CHAVA

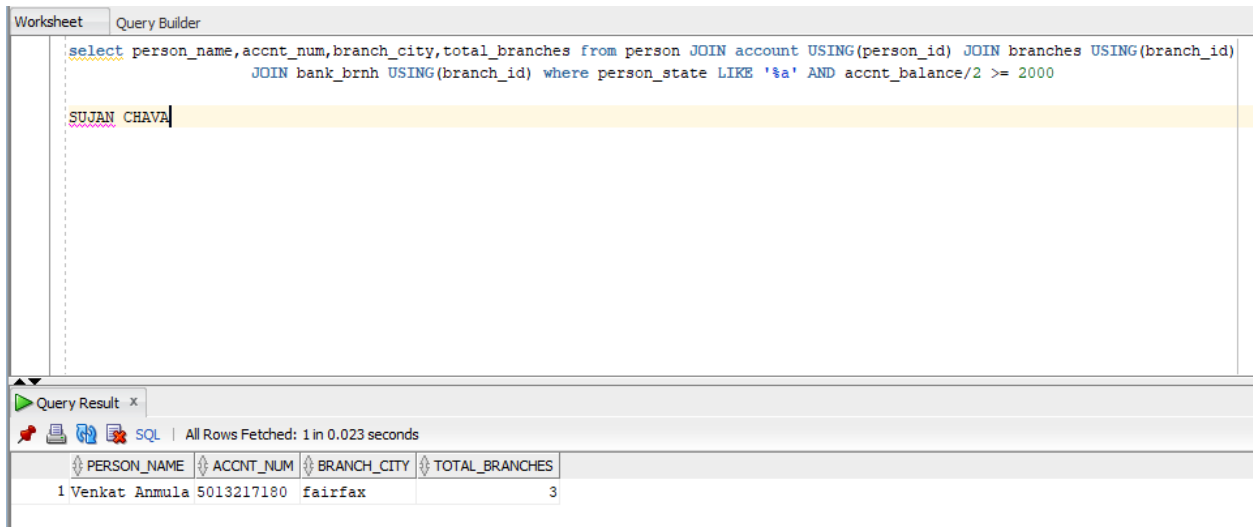
Query Result x

SQL | All Rows Fetched: 2 in 0.015 seconds

	PERSON_NAME	LOAN_AMOUNT	ACCT_BALANCE
1	Venkat Anmula	100000	4000
2	Sujan Chava	50000	2000

- 10) Write a SQL query that joins four tables using any type of join and uses both an arithmetic and special operator. Explain what the query is intended to do.

Retrieve person name which ends with letter 'a', account number, city of the branch in which he/she has account and total number of branches for the bank having half the account balance of the person greater than or equal to 2000.



The screenshot shows a SQL Query Builder interface. The top section is labeled "Worksheet" and "Query Builder". The query text is as follows:

```
select person_name,acct_num,branch_city,total_branches from person JOIN account USING(person_id) JOIN branches USING(branch_id) JOIN bank_brnh USING(branch_id) where person_state LIKE '%a' AND acct_balance/2 >= 2000
```

Below the query text, the name "SUJAN CHAVA" is entered in a text field.

The bottom section is labeled "Query Result" and shows the results of the query. It indicates "All Rows Fetched: 1 in 0.023 seconds". The results are displayed in a table with the following columns: PERSON_NAME, ACCNT_NUM, BRANCH_CITY, and TOTAL_BRANCHES.

	PERSON_NAME	ACCNT_NUM	BRANCH_CITY	TOTAL_BRANCHES
1	Venkat Anmula	5013217180	fairfax	3