



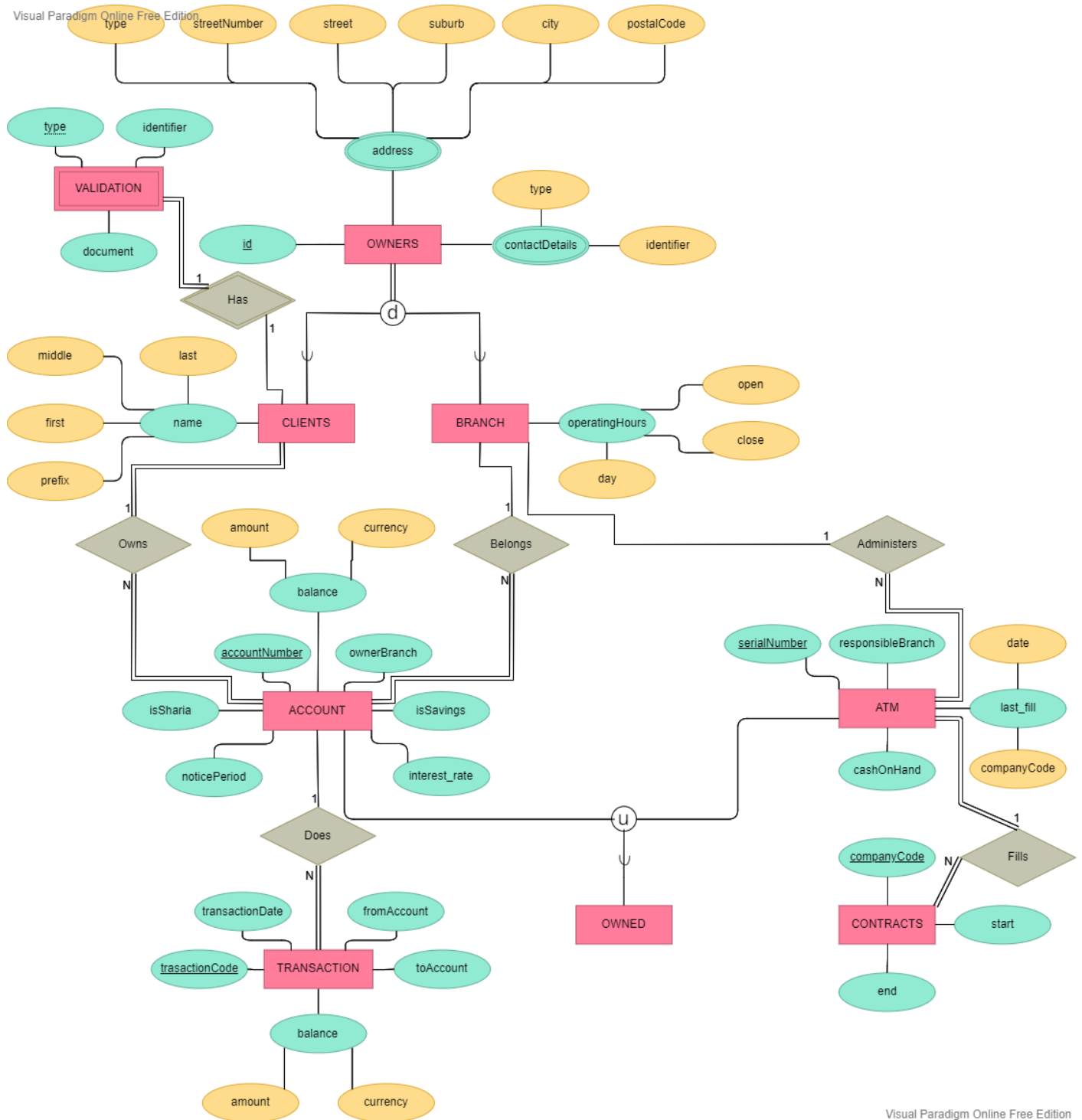
PRACTICAL ASSIGNMENT 1

UPBank Database



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Task 2



Task 3

OWNERS

<u>id</u>

ADDRESS

<u>Oid</u>	a_type	streetNumber	street	suburb	city	<u>postalCode</u>
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CONTACTDETAILS

<u>Oid</u>	c_type	<u>identifier</u>
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ACCOUNT

<u>accountNumber</u>	amount	currency	isSavings	interest_rate	noticePeriod	isSharia	clientId	ownerBranch	ownedId
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TRANSACTION

<u>transactionCode</u>	transactionDate	amount	currency	toAccount	fromAccount
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ATM

<u>serialNumber</u>	f_date	companyCode	cashOnHand	responsibleBranch	ownedId
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CONTRACTS

<u>companyCode</u>	start	end	atmSerialNumber
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VALIDATION

<u>clientId</u>	<u>v_type</u>	identifier	document
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CLIENTS

<u>id</u>	prefix	first	middle	last
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BRANCH

<u>id</u>	open	close	day
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OWNED

<u>ownedId</u>

Task 5

- `USE u18108467_upbank;`

5.1

- `SELECT c.prefix, c.first, c.middle, c.last, a.streetNumber, a.street FROM CLIENTS AS c JOIN ADDRESS as a ON c.id = a.Oid;`

5.2

- `SET SQL_SAFE_UPDATES = 0;`
- `UPDATE ACCOUNT SET ownerBranch = 'B0000003' WHERE ownerBranch = (SELECT b.id FROM BRANCH as b JOIN ADDRESS as a ON b.id = a.Oid WHERE a.suburb = "Randburg");`
- `SET SQL_SAFE_UPDATES = 1;`

#5.3

- `SELECT c.id, c.prefix, c.first, c.middle, c.last FROM CLIENTS as c LEFT JOIN VALIDATION as v ON c.id = v.clientId WHERE v.clientId IS NULL;`

#5.4

- `SET SQL_SAFE_UPDATES = 0;`
- `UPDATE ATM SET responsibleBranch = 'B0000002' WHERE responsibleBranch = (SELECT DISTINCT ATM.responsibleBranch FROM ATM JOIN BRANCH as b ON ATM.responsibleBranch = b.id WHERE ATM.responsibleBranch = (SELECT b.id FROM BRANCH as b JOIN ADDRESS as a ON b.id = a.Oid WHERE a.suburb = "Randburg"));`
- `SET SQL_SAFE_UPDATES = 1;`

#5.5

- `SELECT a.accountNumber, COUNT(*) as amountOfTransactions FROM ACCOUNT as a JOIN TRANSACTION as t ON (a.accountNumber = t.fromAccount) OR (a.accountNumber = t.toAccount) GROUP BY a.accountNumber;`

5.1:

	prefix	first	middle	last	streetNumber	street
►	Mr	A	B	C	333	1'st
	Mr	D	E	F	333	1'st
	Mr	A	F	C	333	1'st
	Mr	U		D	333	1'st
	Mr	R	D	B	888	1'st
	Mr	M	S	C	333	1'st
	Mr	A		K	333	1'st

5.2: [Before](#) [After](#)

```
SELECT ownerBranch
FROM `u18108467_upbank`.`ACCOUNT`;
```

	ownerBranch
►	B0000001
	B0000002
	B0000003
	B0000002
	B0000002
	B0000003
	B0000001

	ownerBranch
►	B0000003
	B0000002
	B0000003
	B0000002
	B0000002
	B0000003
	B0000003

5.3:

	id	prefix	first	middle	last
►	C0000006	Mr	M	S	C

5.4: [Before](#) [After](#)

```
SELECT responsibleBranch
FROM `u18108467_upbank`.`ATM`;
```

	responsibleBranch
►	B0000003
	B0000001
	B0000002
	B0000001
	B0000003
	B0000001
	B0000002

	responsibleBranch
►	B0000003
	B0000002
	B0000002
	B0000002
	B0000003
	B0000002
	B0000002

5.5:

	accountNumber	amountOfTransactions
►	A0000001	3
	A0000002	25
	A0000003	2
	A0000004	26
	A0000007	2

Task 6

6.1) \select_{serialNumber like 'ABC123%'} ATM;

6.2) \project_{companyCode} \select_{suburb = 'Groenkloof'} (ATM \join_{responsibleBranch = Oid} ADDRESS);

6.3) \select_{amountOfTransactions > 24} \rename_{accountNumber, amountOfTransactions}
\aggr_{accountNumber: count(1)} ACCOUNT \join_{(accountNumber = toAccount) or (accountNumber =
fromAccount)} TRANSACTION;