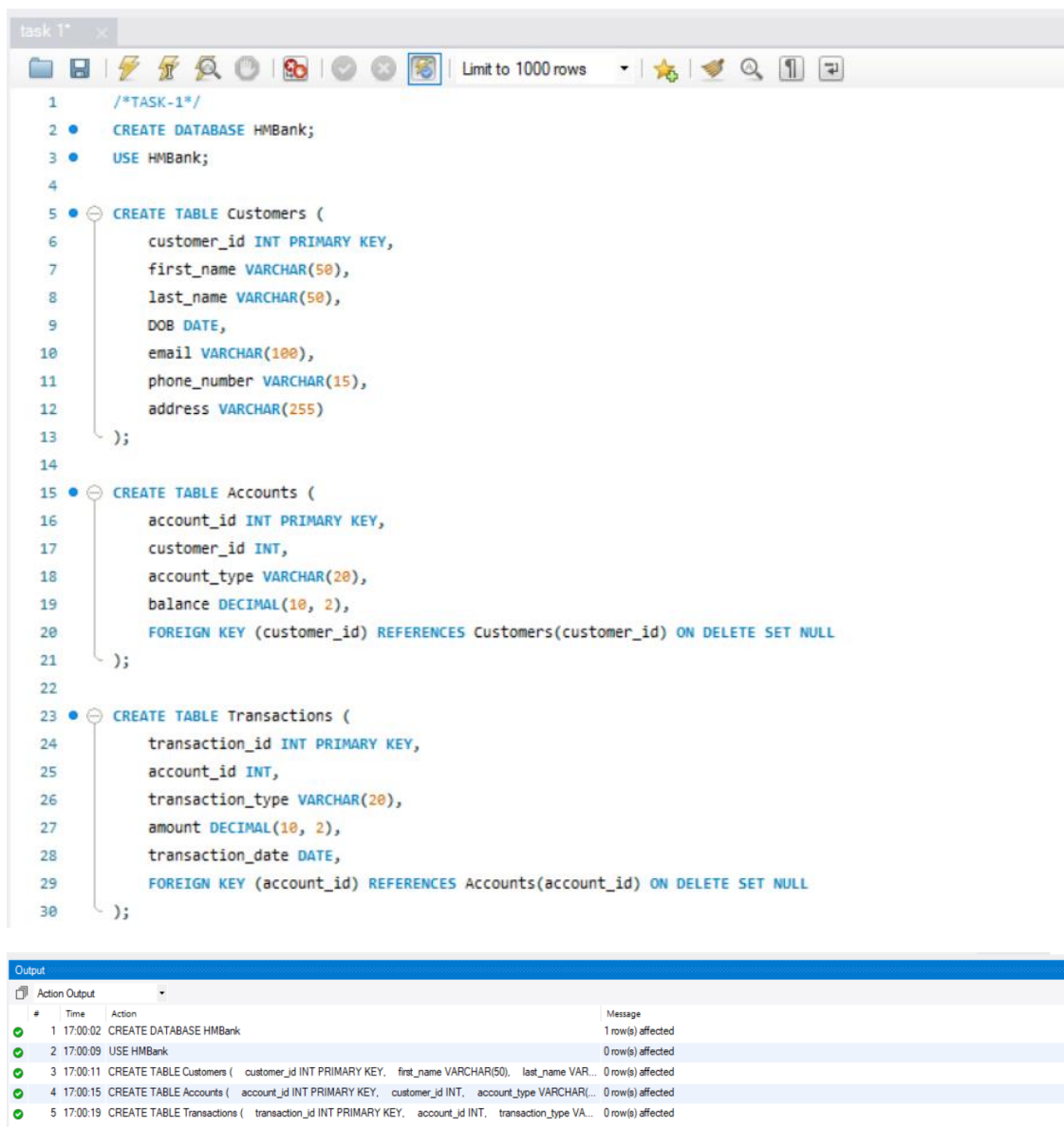


# Assignment 3

## Banking system

### Task1:

1,2,5&6.

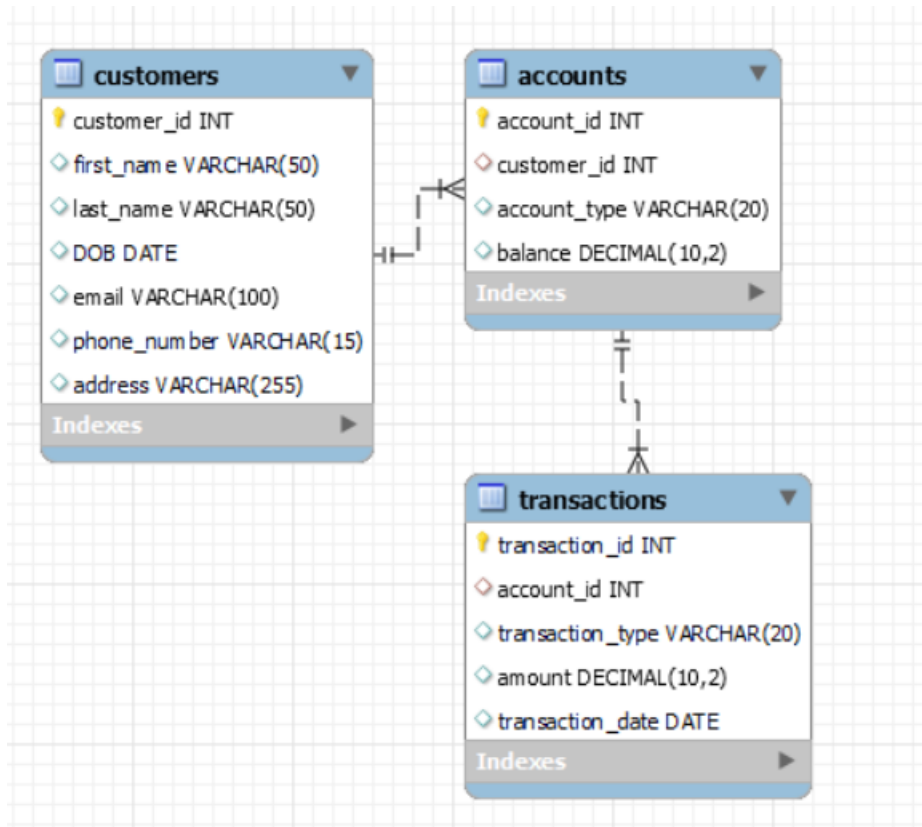


```
1  /*TASK-1*/
2  CREATE DATABASE HMBank;
3  USE HMBank;
4
5  CREATE TABLE Customers (
6      customer_id INT PRIMARY KEY,
7      first_name VARCHAR(50),
8      last_name VARCHAR(50),
9      DOB DATE,
10     email VARCHAR(100),
11     phone_number VARCHAR(15),
12     address VARCHAR(255)
13 );
14
15 CREATE TABLE Accounts (
16     account_id INT PRIMARY KEY,
17     customer_id INT,
18     account_type VARCHAR(20),
19     balance DECIMAL(10, 2),
20     FOREIGN KEY (customer_id) REFERENCES Customers(customer_id) ON DELETE SET NULL
21 );
22
23 CREATE TABLE Transactions (
24     transaction_id INT PRIMARY KEY,
25     account_id INT,
26     transaction_type VARCHAR(20),
27     amount DECIMAL(10, 2),
28     transaction_date DATE,
29     FOREIGN KEY (account_id) REFERENCES Accounts(account_id) ON DELETE SET NULL
30 );
```

Output

#	Time	Action	Message	Duration / Fetch
1	17:00:02	CREATE DATABASE HMBank	1 row(s) affected	0.016 sec
2	17:00:09	USE HMBank	0 row(s) affected	0.000 sec
3	17:00:11	CREATE TABLE Customers ( customer_id INT PRIMARY KEY, first_name VARCHAR(50), last_name VAR...	0 row(s) affected	0.047 sec
4	17:00:15	CREATE TABLE Accounts ( account_id INT PRIMARY KEY, customer_id INT, account_type VARCHAR(...	0 row(s) affected	0.094 sec
5	17:00:19	CREATE TABLE Transactions ( transaction_id INT PRIMARY KEY, account_id INT, transaction_type VA...	0 row(s) affected	0.078 sec

### 3.ER Diagram



**1.**

```
task 1" x
Limit to 1000 rows
31 /*task 2 1st part*/
32 INSERT INTO Customers VALUES
33 (1, 'Rahul', 'Sharma', '1990-05-15', 'rahul.sharma@email.com', '9876543210', 'Delhi'),
34 (2, 'Priya', 'Patel', '1985-08-22', 'priya.patel@email.com', '8765432109', 'Mumbai'),
35 (3, 'Amit', 'Singh', '1988-04-12', 'amit.singh@email.com', '7654321098', 'Kolkata'),
36 (4, 'Deepa', 'Shah', '1995-09-28', 'deepa.shah@email.com', '6543210987', 'Chennai'),
37 (5, 'Rajesh', 'Kumar', '1977-12-05', 'rajesh.kumar@email.com', '5432109876', 'Hyderabad'),
38 (6, 'Anita', 'Gupta', '1982-03-20', 'anita.gupta@email.com', '4321098765', 'Bangalore'),
39 (7, 'Suresh', 'Verma', '1992-06-18', 'suresh.verma@email.com', '3210987654', 'Mumbai'),
40 (8, 'Preeti', 'Agarwal', '1980-11-15', 'preeti.agarwal@email.com', '2109876543', 'Delhi'),
41 (9, 'Vikram', 'Rajput', '1993-02-25', 'vikram.rajput@email.com', '1098765432', 'Chandigarh'),
42 (10, 'Neha', 'Sharma', '1986-07-30', 'neha.sharma@email.com', '9876543210', 'Jaipur');
43
44 INSERT INTO Accounts VALUES
45 (101, 1, 'savings', 5000.00),
46 (102, 10, 'zero_balance', 10000.00),
47 (103, 2, 'savings', 8000.00),
48 (104, 3, 'current', 12000.00),
49 (105, 4, 'savings', 6000.00),
50 (106, 5, 'zero_balance', 15000.00),
51 (107, 6, 'savings', 7000.00),
52 (108, 7, 'current', 18000.00),
53 (109, 8, 'zero_balance', 9000.00),
54 (110, 9, 'current', 20000.00);
55
56 INSERT INTO Transactions VALUES
57 (1001, 101, 'deposit', 2000.00, '2023-01-10'),
58 (1002, 101, 'withdrawal', 1000.00, '2023-02-15'),
59 (1003, 107, 'deposit', 3000.00, '2023-03-20'),
60 (1004, 102, 'withdrawal', 1500.00, '2023-04-25'),
61 (1005, 104, 'deposit', 2500.00, '2023-05-10'),
62 (1006, 103, 'withdrawal', 1200.00, '2023-06-15'),
63 (1007, 104, 'deposit', 4000.00, '2023-07-05'),
64 (1008, 109, 'withdrawal', 2000.00, '2023-08-18'),
65 (1009, 105, 'deposit', 3500.00, '2023-09-22'),
66 (1010, 105, 'withdrawal', 1800.00, '2023-10-30');
```

Output				
Action Output			Message	
#	Time	Action		Duration / Fetch
✓	17:05:51	INSERT INTO Customers VALUES (1, 'Rahul', 'Sharma', '1990-05-15', 'rahul.sharma@email.com', '5676543210', ...	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0	0.015 sec
✓	17:05:53	INSERT INTO Accounts VALUES (101, 1, 'savings', 5000.00, (102, 10, 'zero_balance', 10000.00), (103, 2, 'savin...	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0	0.015 sec
✓	17:05:55	INSERT INTO Transactions VALUES (1001, 101, 'deposit', 2000.00, '2023-01-10'), (1002, 101, 'withdrawal', 1000...	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0	0.016 sec

## TASK 2(2):

1.

task 2" Limit to 1000 rows

```
1 /*task 2 2nd part*/
2 /*1*/
3 • select first_name,last_name,email,account_type from customers c
4 left join accounts a on a.customer_id=c.customer_id;
5
```

Result Grid

	first_name	last_name	email	account_type
▶	Rahul	Sharma	rahul.sharma@email.com	savings
	Priya	Patel	priya.patel@email.com	savings
	Amit	Singh	amit.singh@email.com	current
	Deepa	Shah	deepa.shah@email.com	savings
	Rajesh	Kumar	rajesh.kumar@email.com	zero_balance
	Anita	Gupta	anita.gupta@email.com	savings
	Suresh	Verma	suresh.verma@email.com	current
	Preeti	Agarwal	preeti.agarwal@email.com	zero_balance
	Vikram	Rajput	vikram.rajput@email.com	current
	Neha	Sharma	neha.sharma@email.com	zero_balance

Result 1 x Read Only Context Help Snippets

Output

Action Output

#	Time	Action	Message	Duration / Fetch
1	17:07:50	select first_name,last_name,email,account_type from customers c left join accounts a on a.customer_id=c.customer_id;	10 row(s) returned	0.000 sec / 0.000 sec

2.

task 2" Limit to 1000 rows

```
7 /*2*/
8 • select t.transaction_id,t.transaction_type,t.amount,c.customer_id from transactions t
9 left join accounts a on a.account_id=t.account_id
10 left join customers c on c.customer_id=a.customer_id;
11
```

Result Grid

	transaction_id	transaction_type	amount	customer_id
▶	1001	deposit	2000.00	1
	1002	withdrawal	1000.00	1
	1003	deposit	3000.00	6
	1004	withdrawal	1500.00	10
	1005	deposit	2500.00	3
	1006	withdrawal	1200.00	2
	1007	deposit	4000.00	3
	1008	withdrawal	2000.00	8
	1009	deposit	3500.00	4
	1010	withdrawal	1800.00	4

Result 2 x Read Only Context Help Snippets

Output

Action Output

#	Time	Action	Message	Duration / Fetch
1	17:07:50	select first_name,last_name,email,account_type from customers c left join accounts a on a.customer_id=c.customer_id;	10 row(s) returned	0.000 sec / 0.000 sec
2	17:09:05	select t.transaction_id,t.transaction_type,t.amount,c.customer_id from transactions t left join accounts a on a.ac...	10 row(s) returned	0.000 sec / 0.000 sec

3.

The screenshot shows a SQL IDE window titled 'task 2'. The SQL editor contains the following code:

```
12 /*3*/  
13 • UPDATE Accounts  
14   SET balance = balance + 200  
15   WHERE account_id = 101;  
16
```

The right sidebar shows 'SQLAdditions' with 'My Snippets' and 'Context Help' / 'Snippets' tabs.

The 'Output' panel at the bottom shows the 'Action Output' table:

#	Time	Action	Message	Duration / Fetch
1	17:10:22	UPDATE Accounts SET balance = balance + 200 WHERE account_id = 101	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0	0.016 sec

4.

The screenshot shows a SQL IDE window titled 'task 2'. The SQL editor contains the following code:

```
18  
19 /*4*/  
20 • SELECT CONCAT(first_name, ' ', last_name) AS full_name FROM Customers;  
21
```

The right sidebar shows 'SQLAdditions' with 'My Snippets' and 'Context Help' / 'Snippets' tabs.

The 'Result Grid' is displayed, showing a list of customer names:

full_name
Rahul Sharma
Priya Patel
Amit Singh
Deepa Shah
Rajesh Kumar
Anita Gupta
Suresh Verma
Preeti Agarwal

The 'Output' panel at the bottom shows the 'Action Output' table:

#	Time	Action	Message	Duration / Fetch
1	17:11:05	SELECT CONCAT(first_name, ' ', last_name) AS full_name FROM Customers LIMIT 0, 1000	10 row(s) returned	0.000 sec / 0.000 sec

5.

The screenshot shows a SQL IDE window titled 'task 2'. The SQL editor contains the following code:

```
23 /*5*/  
24 • DELETE FROM Accounts  
25   WHERE balance = 0 AND account_type = 'savings';
```

The right sidebar shows 'SQLAdditions' with 'My Snippets' and 'Context Help' / 'Snippets' tabs.

The 'Output' panel at the bottom shows the 'Action Output' table:

#	Time	Action	Message	Duration / Fetch
1	17:12:30	DELETE FROM Accounts WHERE balance = 0 AND account_type = 'savings'	0 row(s) affected	0.000 sec

6.

task 2"

Limit to 1000 rows

```
26
27 /*6*/
28 • SELECT * FROM Customers WHERE address = 'Mumbai';
29
```

Result Grid

	customer_id	first_name	last_name	DOB	email	phone_number	address
▶	2	Priya	Patel	1985-08-22	priya.patel@email.com	8765432109	Mumbai
•	7	Suresh	Verma	1992-06-18	suresh.verma@email.com	3210987654	Mumbai

Output

Action Output

#	Time	Action	Message	Duration / Fetch
✓ 1	17:13:11	SELECT * FROM Customers WHERE address = 'Mumbai' LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec

7.

task 2"

Limit to 1000 rows

```
30
31 /*7*/
32 • SELECT balance
33 FROM Accounts
34 WHERE account_id = 101;
35
```

Result Grid

	balance
▶	5200.00

Accounts 5 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
✓ 1	17:14:35	SELECT balance FROM Accounts WHERE account_id = 101 LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

8.

The screenshot shows a database tool interface with a SQL editor at the top containing the following query:

```
36
37 /*8*/
38 • SELECT account_id, balance
39 FROM Accounts
40 WHERE account_type = 'current' AND balance > 1000.00;
41
```

Below the editor is a 'Result Grid' showing the results of the query:

account_id	balance
104	12000.00
108	18000.00
110	20000.00

The bottom section of the interface shows the 'Output' tab with an 'Action Output' table:

#	Time	Action	Message	Duration / Fetch
1	17:15:59	SELECT account_id, balance FROM Accounts WHERE account_type = 'current' AND balance > 1000.00 LIMIT 0, 1000	3 row(s) returned	0.000 sec / 0.000 sec

9.

The screenshot shows a database tool interface with a SQL editor at the top containing the following query:

```
42
43 /*9*/
44 • SELECT *
45 FROM Transactions
46 WHERE account_id = 101;
47
```

Below the editor is a 'Result Grid' showing the results of the query:

transaction_id	account_id	transaction_type	amount	transaction_date
1001	101	deposit	2000.00	2023-01-10
1002	101	withdrawal	1000.00	2023-02-15

The bottom section of the interface shows the 'Output' tab with an 'Action Output' table:

#	Time	Action	Message	Duration / Fetch
1	17:16:32	SELECT * FROM Transactions WHERE account_id = 101 LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec

10.

The screenshot shows the SQL Developer interface with a query window titled 'task 2'. The query is as follows:

```
48
49 /*10*/
50 • SELECT account_id, balance * 0.05 AS interest_accrued
51 FROM Accounts
52 WHERE account_type = 'savings';
53
```

The 'Result Grid' shows the following data:

account_id	interest_accrued
101	260.0000
103	400.0000
105	300.0000
107	350.0000

The 'Output' pane shows the execution details:

#	Time	Action	Message	Duration / Fetch
1	17:17:13	SELECT account_id, balance * 0.05 AS interest_accrued FROM Accounts WHERE account_type = 'savings' LI...	4 row(s) returned	0.000 sec / 0.000 sec

11.

The screenshot shows the SQL Developer interface with a query window titled 'task 2'. The query is as follows:

```
54 /*11*/
55 • SELECT account_id, balance
56 FROM Accounts
57 WHERE balance < -300.00;
58 /* here there was no overdraft limit given so i considered it as -300*/
59
```

The 'Result Grid' shows the following data:

account_id	balance
101	-300.00
103	-300.00

The 'Output' pane shows the execution details:

#	Time	Action	Message	Duration / Fetch
1	17:18:08	SELECT account_id, balance FROM Accounts WHERE balance < -300.00 LIMIT 0, 1000	0 row(s) returned	0.000 sec / 0.000 sec

## 12.

The screenshot shows a database management tool interface. At the top, there's a toolbar with various icons and a 'Limit to 1000 rows' dropdown. Below the toolbar is a SQL editor with the following code:

```
59
60 /*12*/
61 • SELECT first_name, last_name
62 FROM Customers
63 WHERE address <> 'Mumbai';
64
```

Below the editor is a 'Result Grid' section. It has a 'Filter Rows' input field, an 'Exports' button, and a 'Wrap Cell Content' checkbox. The grid displays the following data:

first_name	last_name
Rahul	Sharma
Amit	Singh
Deepa	Shah
Rajesh	Kumar
Anita	Gupta
Preeti	Agarwal

Below the grid is an 'Output' section with a table showing the execution details:

#	Time	Action	Message	Duration / Fetch
1	17:18:51	SELECT first_name, last_name FROM Customers WHERE address <> 'Mumbai' LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec

On the right side of the interface, there's a 'SQLAdditions' panel with a 'My Snippets' dropdown and a 'Result Grid' button. At the bottom right, there are buttons for 'Read Only', 'Context Help', and 'Snippets'.

## TASK3:

1.

The screenshot shows a SQL IDE window titled 'task3'. The SQL editor contains the following query:

```
1  /* task 3*/  
2  
3  /*1*/  
4  • SELECT AVG(balance) AS average_balance  
5    FROM Accounts;  
6
```

The 'Result Grid' shows a single row with the value 11020.000000 for the column 'average\_balance'.

The 'Output' pane shows the execution log:

#	Time	Action	Message	Duration / Fetch
1	17:20:07	SELECT AVG(balance) AS average_balance FROM Accounts LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

2.

The screenshot shows the same SQL IDE window 'task3' with a new query:

```
7  /*2*/  
8  • SELECT account_id, balance  
9    FROM Accounts  
10   ORDER BY balance DESC  
11   LIMIT 10;  
12
```

The 'Result Grid' displays the top 10 accounts by balance:

account_id	balance
110	20000.00
108	18000.00
106	15000.00
104	12000.00
102	10000.00
109	9000.00
...	...

The 'Output' pane shows the execution log:

#	Time	Action	Message	Duration / Fetch
1	17:21:11	SELECT account_id, balance FROM Accounts ORDER BY balance DESC LIMIT 10	10 row(s) returned	0.000 sec / 0.000 sec

3.

The screenshot shows a SQL task window titled 'task3'. The query editor contains the following SQL code:

```
13
14  /*3*/
15 • SELECT SUM(amount) AS total_deposits
16   FROM Transactions
17   WHERE transaction_type = 'deposit' AND transaction_date = '2023-01-10';
18
```

Below the query editor, the 'Result Grid' shows a single row with the column 'total\_deposits' and the value '2000.00'. The 'Output' pane at the bottom shows the execution log:

#	Time	Action	Message	Duration / Fetch
1	17:22:30	SELECT SUM(amount) AS total_deposits FROM Transactions WHERE transaction_type = 'deposit' AND transaction_date = '2023-01-10';	1 row(s) returned	0.000 sec / 0.000 sec

4.

The screenshot shows a SQL task window titled 'task3'. The query editor contains the following SQL code:

```
20
21
22  /*4*/
23 • SELECT MIN(DOB) AS oldest_customer, MAX(DOB) AS newest_customer
24   FROM Customers;
25
```

Below the query editor, the 'Result Grid' shows a single row with columns 'oldest\_customer' and 'newest\_customer', containing the values '1977-12-05' and '1995-09-28' respectively. The 'Output' pane at the bottom shows the execution log:

#	Time	Action	Message	Duration / Fetch
1	17:23:06	SELECT MIN(DOB) AS oldest_customer, MAX(DOB) AS newest_customer FROM Customers LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

5.

The screenshot shows a SQL IDE window titled 'task3'. The query editor contains the following SQL code:

```
26
27 /*5*/
28 • SELECT t.*, a.account_type
29 FROM Transactions t
30 JOIN Accounts a ON t.account_id = a.account_id;
31
```

The 'Result Grid' displays the following data:

transaction_id	account_id	transaction_type	amount	transaction_date	account_type
1001	101	deposit	2000.00	2023-01-10	savings
1002	101	withdrawal	1000.00	2023-02-15	savings
1003	107	deposit	3000.00	2023-03-20	savings
1004	102	withdrawal	1500.00	2023-04-25	zero_balance
1005	104	deposit	2500.00	2023-05-10	current
1006	103	withdrawal	1200.00	2023-06-15	savings

The 'Output' pane shows the execution message: '1 17:23:39 SELECT t.\*, a.account\_type FROM Transactions t JOIN Accounts a ON t.account\_id = a.account\_id LIMIT 0, 1... 10 row(s) returned'. The duration is 0.000 sec / 0.000 sec.

6.

The screenshot shows a SQL IDE window titled 'task3'. The query editor contains the following SQL code:

```
32
33 /*6*/
34 • SELECT c.*, a.*
35 FROM Customers c
36 JOIN Accounts a ON c.customer_id = a.customer_id;
37
```

The 'Result Grid' displays the following data:

customer_id	first_name	last_name	DOB	email	phone_number	address	account_id	customer_id	account_type	balance
1	Rahul	Sharma	1990-05-15	rahul.sharma@email.com	9876543210	Delhi	101	1	savings	5200.00
2	Priya	Patel	1985-08-22	priya.patel@email.com	8765432109	Mumbai	103	2	savings	8000.00
3	Amit	Singh	1988-04-12	amit.singh@email.com	7654321098	Kolkata	104	3	current	12000.00
4	Deepa	Shah	1995-09-28	deepa.shah@email.com	6543210987	Chennai	105	4	savings	6000.00
5	Rajesh	Kumar	1977-12-05	rajesh.kumar@email.com	5432109876	Hyderabad	106	5	zero_balance	15000.00
6	Anita	Gupta	1982-03-20	anita.gupta@email.com	4321098765	Bangalore	107	6	savings	7000.00

The 'Output' pane shows the execution message: '1 17:24:15 SELECT c.\*, a.\* FROM Customers c JOIN Accounts a ON c.customer\_id = a.customer\_id LIMIT 0, 1000'. The duration is 0.000 sec / 0.000 sec.

7.

The screenshot shows a database IDE interface. The top pane contains a SQL query:

```
38 /*7*/
39 • SELECT t.*, c.*
40 FROM Transactions t
41 JOIN Accounts a ON t.account_id = a.account_id
42 JOIN Customers c ON a.customer_id = c.customer_id
43 WHERE t.account_id = '101';
44
```

The bottom pane displays the 'Result Grid' with the following data:

transaction_id	account_id	transaction_type	amount	transaction_date	customer_id	first_name	last_name	DOB	email	phone_number	address
1001	101	deposit	2000.00	2023-01-10	1	Rahul	Sharma	1990-05-15	rahul.sharma@email.com	9876543210	Delhi
1002	101	withdrawal	1000.00	2023-02-15	1	Rahul	Sharma	1990-05-15	rahul.sharma@email.com	9876543210	Delhi

The 'Output' pane at the bottom shows the execution log:

#	Time	Action	Message	Duration / Fetch
1	17:25:01	SELECT t.*, c.* FROM Transactions t JOIN Accounts a ON t.account_id = a.account_id JOIN Customers c ON ...	2 row(s) returned	0.000 sec / 0.000 sec

8.

The screenshot shows a database IDE interface. The top pane contains a SQL query:

```
44
45 /*8*/
46 • SELECT customer_id, COUNT(account_id) AS num_accounts
47 FROM Accounts
48 GROUP BY customer_id
49 HAVING num_accounts > 1;
50
```

The bottom pane displays the 'Result Grid' with the following data:

customer_id	num_accounts
-------------	--------------

The 'Output' pane at the bottom shows the execution log:

#	Time	Action	Message	Duration / Fetch
1	17:25:31	SELECT customer_id, COUNT(account_id) AS num_accounts FROM Accounts GROUP BY customer_id HAVIN...	0 row(s) returned	0.000 sec / 0.000 sec

9.

The screenshot shows a SQL IDE window titled 'task3'. The query editor contains the following SQL code:

```
50
51 /*9*/
52 • SELECT account_id, SUM(CASE WHEN transaction_type = 'deposit' THEN amount ELSE -amount END) AS difference
53 FROM Transactions
54 GROUP BY account_id;
55
56
```

The 'Result Grid' shows the following data:

account_id	difference
101	1000.00
102	-1500.00
103	-1200.00
104	6500.00
105	1700.00
107	3000.00
109	-2000.00

The 'Output' pane shows the execution message: '1 17:26:06 SELECT account\_id, SUM(CASE WHEN transaction\_type = 'deposit' THEN amount ELSE -amount END) AS diff... 7 row(s) returned' with a duration of 0.000 sec / 0.000 sec.

10.

The screenshot shows a SQL IDE window titled 'task3'. The query editor contains the following SQL code:

```
56
57 /*10*/
58 • SELECT account_id, AVG(balance) AS average_daily_balance
59 FROM Accounts
60 GROUP BY account_id;
61
62
```

The 'Result Grid' shows the following data:

account_id	average_daily_balance
101	5200.000000
102	10000.000000
103	8000.000000
104	12000.000000
105	6000.000000
106	15000.000000
107	7000.000000
108	18000.000000

The 'Output' pane shows the execution message: '1 17:26:38 SELECT account\_id, AVG(balance) AS average\_daily\_balance FROM Accounts GROUP BY account\_id LIMIT ... 10 row(s) returned' with a duration of 0.000 sec / 0.000 sec.

11.

The screenshot shows a SQL IDE window titled 'task3'. The query editor contains the following SQL code:

```
63
64 /*11*/
65 • SELECT account_type, SUM(balance) AS total_balance
66 FROM Accounts
67 GROUP BY account_type;
68
69
```

The 'Result Grid' shows the following data:

account_type	total_balance
savings	26200.00
zero_balance	94000.00
current	50000.00

The 'Output' pane shows the execution log:

#	Time	Action	Message	Duration / Fetch
1	17:27:10	SELECT account_type, SUM(balance) AS total_balance FROM Accounts GROUP BY account_type LIMIT 0, 1...	3 row(s) returned	0.000 sec / 0.000 sec

12.

The screenshot shows a SQL IDE window titled 'task3'. The query editor contains the following SQL code:

```
69
70 /*12*/
71 • SELECT account_id, COUNT(transaction_id) AS num_transactions
72 FROM Transactions
73 GROUP BY account_id
74 ORDER BY num_transactions DESC;
75
```

The 'Result Grid' shows the following data:

account_id	num_transactions
101	2
104	2
105	2
102	1
103	1
107	1
109	1

The 'Output' pane shows the execution log:

#	Time	Action	Message	Duration / Fetch
1	17:27:38	SELECT account_id, COUNT(transaction_id) AS num_transactions FROM Transactions GROUP BY account_id...	7 row(s) returned	0.000 sec / 0.000 sec

13.

task3\*

```

76 /*13*/
77 • SELECT c.customer_id, c.first_name, c.last_name, a.account_type, SUM(a.balance) AS aggregate_balance
78 FROM Customers c
79 JOIN Accounts a ON c.customer_id = a.customer_id
80 GROUP BY c.customer_id, a.account_type
81 ORDER BY aggregate_balance DESC;
82

```

SQLAdditions: My Snippets

Result Grid

customer_id	first_name	last_name	account_type	aggregate_balance
9	Vikram	Rajput	current	20000.00
7	Suresh	Verma	current	18000.00
5	Rajesh	Kumar	zero_balance	15000.00
3	Amit	Singh	current	12000.00
10	Neha	Sharma	zero_balance	10000.00
8	Preeti	Agarwal	zero_balance	9000.00
2	Priya	Patel	savings	8000.00
6	Anita	Gupta	savings	7000.00

Result 17 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
1	17:28:10	SELECT c.customer_id, c.first_name, c.last_name, a.account_type, SUM(a.balance) AS aggregate_balance FR...	10 row(s) returned	0.000 sec / 0.000 sec

14.

task3\*

```

82
83 /*14*/
84 • SELECT amount, transaction_date, account_id, COUNT(transaction_id) AS num_duplicates
85 FROM Transactions
86 GROUP BY amount, transaction_date, account_id
87 HAVING num_duplicates > 1;
88

```

SQLAdditions: My Snippets

Result Grid

amount	transaction_date	account_id	num_duplicates
--------	------------------	------------	----------------

Result 18 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
1	17:28:37	SELECT amount, transaction_date, account_id, COUNT(transaction_id) AS num_duplicates FROM Transactions...	0 row(s) returned	0.000 sec / 0.000 sec