

The Diamond Jewellery Database Management System is a project aimed at managing a jewellery store, where users can find and purchase the latest jewellery items. The system will include various components, such as product management, customer management, and billing management.

Diamond Jewellery

Database Management System

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Schema

- diamond_jewellery_dbms

Tables

- Bill

BID	CID	Date	JID	Toj	Jquantity	Carat	Clarity	Color	DRate	Dquantity	Damount	Grams	Gold	GRate	Gamount	JMakeCost	JAmount
5001	4001	10-07-2023	3001	Ring	1	3	VVS2	F	6653976	1	6653976	10	G22	6000	60000	7200	6721176
5002	4002	26-10-2023	3001	Ring	3	3	VVS2	G	5836320	3	17508960	10	G24	8000	80000	9600	17598560
5003	4003	30-03-2023	3002	Earrings	2	3	VVS2	H	4263840	4	17055360	16	G22	1000	16000	1920	17073280
5004	4004	01-01-2023	3004	Nose Pin	1	2	VVS2	D	2610300	1	2610300	3	G22	6000	18000	2160	2630460
5005	4001	13-01-2023	3005	Toe Rings	1	2	VVS2	E	2419200	2	4838400	4	G24	8000	32000	3840	4874240
5006	4002	10-09-2023	3001	Ring	1	2	VVS2	F	2326464	1	2326464	8	S22	1000	8000	960	2335424
5007	4003	23-02-2023	3002	Earrings	1	2	VVS2	G	2036160	2	4072320	4	S24	500	2000	240	4074560
5008	4004	26-09-2023	3007	Charms	1	1	VS2	G	460152	1	460152	3	G24	8000	24000	2880	487032
5009	4027	21-08-2023	3004	Nose Pin	1	1	SI1	D	465780	1	465780	2	S22	1000	2000	240	468020
5010	4028	07-08-2023	3005	Toe Rings	1	1	VVS1	H	466872	2	933744	4	S24	500	2000	240	935984
5011	4029	07-02-2023	3006	Bracelets	2	1	VS2	F	478548	6	2871288	16	S24	500	8000	960	2880248
5012	4030	01-04-2023	3001	Ring	1	2	VVS2	G	1071840	1	1071840	10	G22	6000	60000	7200	1139040
5013	4027	06-08-2023	3002	Earrings	2	2	VVS2	H	804720	2	1609440	6	G24	8000	48000	5760	1663200
5014	4028	19-09-2023	3003	Pendants	1	1	VVS2	D	645120	2	1290240	12	S22	1000	12000	1440	1303680
5015	4029	12-06-2023	3004	Nose Pin	1	2	VVS1	F	2542176	1	2542176	3	S24	500	1500	180	2543856
5016	4030	20-03-2023	3005	Toe Rings	1	2	VVS1	G	2118816	2	4237632	4	G24	8000	32000	3840	4273472
5017	4013	16-07-2023	3006	Bracelets	1	2	VVS1	H	1931160	3	5793480	16	S22	1000	16000	1920	5811400
5018	4014	11-09-2023	3007	Charms	1	2	VVS1	D	1557360	1	1557360	4	G22	6000	24000	2880	1584240
5019	4015	27-07-2023	3002	Earrings	1	2	VVS1	E	1490496	2	2980992	6	G24	8000	48000	5760	3034752
5020	4016	01-09-2023	3003	Pendants	1	2	VVS1	F	1270080	2	2540160	18	S22	1000	18000	2160	2560320
5021	4017	08-05-2023	3004	Nose Pin	2	2	VVS1	G	1150632	2	2301264	6	S24	500	3000	360	2304624
5022	4018	03-10-2023	3005	Toe Rings	1	3	VS2	E	4819668	2	9639336	4	S22	1000	4000	480	9643816
5023	4019	25-01-2023	3006	Bracelets	1	3	VS2	H	3613680	3	10841040	16	S24	500	8000	960	10850000

- Jewellery type

	JID	TOJ
▶	3001	Ring
	3002	Earrings
	3003	Pendants
	3004	Nose Pin
	3005	Toe Rings
	3006	Bracelets
	3007	Charms

- Customer

	CID	Cname	Ccontact	Caddress	Pincode
▶	4001	Olivia Smith	+91 223-4567	2197 Broadway, New York, NY	98023
	4002	Ethan Thompson	+91 345-6789	225 Central Park West, New York, NY	45678
	4003	Sophia Johnson	+91 456-7890	949 2nd Ave, New York, NY	12346
	4004	Benjamin Campbell	+91 567-8901	119 MacDougal St, New York, NY	78901
	4005	Isabella Miller	+91 678-9012	514 Columbus Ave, New York, NY	34569
	4006	Alexander Foster	+91 789-0123	444 Columbus Ave, New York, NY	67890
	4007	Mia Simmons	+91 890-1234	201 W 83rd St, New York, NY	23456
	4008	Daniel Porter	+91 901-1235	170 Central Park West, New York, NY	89012
	4009	Charlotte Brown	+91 123-4567	833 2nd Ave, New York, NY	34567
	4010	Henry Russell	+91 234-5678	128 W 72nd St, New York, NY	98023
	4011	Amelia Wilson	+91 345-6789	2187 Broadway, New York, NY	12345
	4012	Jack Harrison	+91 456-7890	324 Central Park West, New York, NY	67890
	4013	Harper Woods	+91 567-8901	849 2nd Ave, New York, NY	23456
	4014	Alexander Mitchell	+91 678-9012	219 MacDougal St, New York, NY	89012
	4015	Ella Porter	+91 789-0123	414 Columbus Ave, New York, NY	12345
	4016	Grayson Smith	+91 890-1234	744 Columbus Ave, New York, NY	67890
	4017	Abigail Turner	+91 901-1235	601 W 83rd St, New York, NY	23456
	4018	Julian Porter	+91 123-4567	770 Central Park West, New York, NY	89012
	4019	Emily Thompson	+91 234-5678	803 2nd Ave, New York, NY	34567
	4020	Leo Foster	+91 345-6789	348 W 72nd St, New York, NY	98023
	4021	Avery Simmons	+91 456-7890	2697 Broadway, New York, NY	12345
	4022	Owen Campbell	+91 567-8901	765 Central Park West, New York, NY	67890
	4023	Scarlett Brown	+91 678-9012	989 2nd Ave, New York, NY	23456

- Gold base price

	Pure	Rate
►	G22	6000
	G24	8000
	S22	1000
	S24	500

- Diamond

	Carat	Clarity	Color	Rate
►	3	VVS2	D	7485912
	3	VVS2	E	7075824
	3	VVS2	F	6653976
	3	VVS2	G	5836320
	3	VVS2	H	4263840
	2	VVS2	D	2610300
	2	VVS2	E	2419200
	2	VVS2	F	2326464
	2	VVS2	G	2036160
	2	VVS2	H	1812384
	2	VVS2	D	1358700
	2	VVS2	E	1259328
	2	VVS2	F	1227744
	2	VVS2	G	1071840
	2	VVS2	H	804720
	1	VVS2	D	645120
	1	VVS2	E	525336
	1	VVS2	F	515424
	1	VVS2	G	500472
	1	VVS2	H	447468
	3	VVS1	D	8491392
	3	VVS1	E	7710864
	3	VVS1	F	7499520

Queries

- Case Statement

The screenshot shows a database IDE with a SQL query editor and a results grid. The query is a SQL statement using a CASE statement to categorize customers based on their JAmount.

```
-- Case Statement
select CID, JAmount,
CASE
  when JAmount > 8000000 then 'High-level Customer'
  WHEN JAmount between 5000000 AND 8000000 then 'Mid-level Customer'
  ELSE 'LOW-level Customer'
END AS Client_Status
FROM BILL;
```

The results grid displays the following data:

	CID	JAmount	Client_Status
▶	4001	6721176	Mid-level Customer
	4002	17598560	High-level Customer
	4003	17073280	High-level Customer
	4004	2630460	LOW-level Customer
	4001	4874240	LOW-level Customer
	4002	2335424	LOW-level Customer
	4003	4074560	LOW-level Customer
	4004	487032	LOW-level Customer
	4027	468020	LOW-level Customer
	4028	935984	LOW-level Customer
	4029	2880248	LOW-level Customer
	4030	1139040	LOW-level Customer
	4027	1663200	LOW-level Customer
	4028	1303680	LOW-level Customer
	4029	2543856	LOW-level Customer
	4030	4273472	LOW-level Customer

- Windows Function Aggregate 1

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHMAS

Filter objects

artgallery

diamond_jewellery_dbms

Tables

bill

customer

diamond

Columns

Indexes

Foreign Keys

Triggers

gold base price

jewellery type

Views

Stored Procedures

Functions

ig_clone

pms

railwayms

trial_diamond

Administration Schemas

Information

No object selected

bill bill customer gold base price customer jewellery type bill bill

Limit to 1000 rows

```

1 -- Windows Function
2 -- Aggregate
3 • SELECT JMakecost, Gold,
4 SUM(JMakecost) OVER( PARTITION BY Gold ORDER BY JMakecost ) AS "Total",
5 AVG(JMakecost) OVER( PARTITION BY Gold ORDER BY JMakecost ) AS "Average",
6 COUNT(JMakecost) OVER( PARTITION BY Gold ORDER BY JMakecost ) AS "Count",
7 MIN(JMakecost) OVER( PARTITION BY Gold ORDER BY JMakecost ) AS "Min",
8 MAX(JMakecost) OVER( PARTITION BY Gold ORDER BY JMakecost ) AS "Max"
9 FROM BILL;

```

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

	JMakecost	Gold	Total	Average	Count	Min	Max
▶	1920	G22	1920	1920.0000	1	1920	1920
	2160	G22	4080	2040.0000	2	1920	2160
	2880	G22	6960	2320.0000	3	1920	2880
	3600	G22	10560	2640.0000	4	1920	3600
	7200	G22	24960	4160.0000	6	1920	7200
	7200	G22	24960	4160.0000	6	1920	7200
	14400	G22	39360	5622.8571	7	1920	14400
	1920	G24	1920	1920.0000	1	1920	1920
	2880	G24	4800	2400.0000	2	1920	2880
	3840	G24	12480	3120.0000	4	1920	3840
	3840	G24	12480	3120.0000	4	1920	3840
	5760	G24	24000	4000.0000	6	1920	5760
	5760	G24	24000	4000.0000	6	1920	5760
	7680	G24	31680	4525.7143	7	1920	7680
	9600	G24	41280	5160.0000	8	1920	9600
	240	S22	240	240.0000	1	240	240
	480	S22	1200	400.0000	3	240	480
	480	S22	1200	400.0000	3	240	480
	960	S22	3120	674.0000	5	240	960

Result 3 x

• Windows Function Aggregate 2

The screenshot displays the SQL Enterprise Manager interface. The left pane shows the 'SCHEMAS' tree with 'diamond_jewellery_dbms' expanded, listing tables like 'bill', 'customer', and 'diamond'. The main query editor contains the following SQL script:

```
1  -- Windows Function
2  -- Aggregate 2
3  • SELECT JMakecost,
4     sum(JMakecost) OVER( ORDER BY JMakecost ROWS BETWEEN UNBOUNDED PRECEDING AND UNBOUNDED FOLLOWING) AS "Total",
5     AVG(JMakecost) OVER( ORDER BY JMakecost ROWS BETWEEN UNBOUNDED PRECEDING AND UNBOUNDED FOLLOWING) AS "Average",
6     COUNT(JMakecost) OVER(ORDER BY JMakecost ROWS BETWEEN UNBOUNDED PRECEDING AND UNBOUNDED FOLLOWING) AS "Count",
7     MIN(JMakecost) OVER( ORDER BY JMakecost ROWS BETWEEN UNBOUNDED PRECEDING AND UNBOUNDED FOLLOWING) AS "Min",
8     MAX(JMakecost) OVER (ORDER BY JMakecost ROWS BETWEEN UNBOUNDED PRECEDING AND UNBOUNDED FOLLOWING) AS "Max"
9  FROM BILL;
```

The 'Result Grid' shows the output of the query. The columns are JMakecost, Total, Average, Count, Min, and Max. The data is as follows:

JMakecost	Total	Average	Count	Min	Max
180	93180	3106.0000	30	180	14400
240	93180	3106.0000	30	180	14400
240	93180	3106.0000	30	180	14400
240	93180	3106.0000	30	180	14400
360	93180	3106.0000	30	180	14400
480	93180	3106.0000	30	180	14400
480	93180	3106.0000	30	180	14400
960	93180	3106.0000	30	180	14400
960	93180	3106.0000	30	180	14400
960	93180	3106.0000	30	180	14400
960	93180	3106.0000	30	180	14400
960	93180	3106.0000	30	180	14400
960	93180	3106.0000	30	180	14400
1440	93180	3106.0000	30	180	14400
1920	93180	3106.0000	30	180	14400
1920	93180	3106.0000	30	180	14400
1920	93180	3106.0000	30	180	14400
2160	93180	3106.0000	30	180	14400
2160	93180	3106.0000	30	180	14400

The bottom of the window shows 'Result 5' and an 'Output' pane.

• Windows Function Ranking

File Edit View Query Database Server Tools Scripting Help

Navigator: bill bill customer gold base price customer jewellery type bill

SCHEMAS

Filter objects

- artgallery
- diamond_jewellery_dbms
 - Tables
 - bill
 - customer
 - diamond
 - Columns
 - Indexes
 - Foreign Keys
 - Triggers
 - gold base price
 - jewellery type
 - Views
 - Stored Procedures
 - Functions
- ig_clone
- pms
- railwayms
- trial_diamond

Administration Schemas

Information

No object selected

```

1  -- Windows Function
2  -- Ranking
3  • SELECT BID,CID,JAmount,
4     ROW_NUMBER() OVER( ORDER BY JAmount) AS "ROW_NUMBER",
5     RANK() OVER (ORDER BY JAmount) AS "RANK",
6     DENSE_RANK() OVER( ORDER BY JAmount) AS "DENSE_RANK",
7     PERCENT_RANK() OVER( ORDER BY JAmount) AS "PERCENT_RANK"
8     FROM BILL;
  
```

Result Grid

	BID	CID	JAmount	ROW_NUMBER	RANK	DENSE_RANK	PERCENT_RANK
▶	5009	4027	468020	1	1	1	0
	5008	4004	487032	2	2	2	0.034482758620689655
	5028	4024	761488	3	3	3	0.06896551724137931
	5010	4028	935984	4	4	4	0.10344827586206896
	5029	4025	1042720	5	5	5	0.13793103448275862
	5012	4030	1139040	6	6	6	0.1724137931034483
	5014	4028	1303680	7	7	7	0.20689655172413793
	5018	4014	1584240	8	8	8	0.2413793103448276
	5013	4027	1663200	9	9	9	0.27586206896551724
	5027	4023	2067576	10	10	10	0.3103448275862069
	5026	4022	2071328	11	11	11	0.3448275862068966
	5025	4021	2094148	12	12	12	0.3793103448275862
	5024	4020	2110080	13	13	13	0.41379310344827586
	5021	4017	2304624	14	14	14	0.4482758620689655
	5006	4002	2335424	15	15	15	0.4827586206896552
	5015	4029	2543856	16	16	16	0.5172413793103449
	5020	4016	2560320	17	17	17	0.5517241379310345
	5004	4004	2630460	18	18	18	0.5862068965517241
	5011	4029	2880248	19	19	19	0.6206896551724138

Result 2 x

Output

Action Output

- Windows Function Analytics

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

- artgallery
- diamond_jewellery_dbms
 - Tables
 - bill
 - customer
 - diamond
 - Columns
 - Indexes
 - Foreign Keys
 - Triggers
 - gold base price
 - jewellery type
 - Views
 - Stored Procedures
 - Functions
- ig_clone
- pms
- railwayms
- trial_diamond

Administration Schemas

Information

No object selected

bill bill customer gold base price customer jewellery type bill

Limit to 1000 rows

```

1  -- Windows Function
2  -- Analytic
3  • SELECT JMakecost,
4      FIRST_VALUE(JMakecost) OVER( ORDER BY JMakecost) AS "FIRST_VALUE",
5      LAST_VALUE(JMakecost) OVER( ORDER BY JMakecost) AS "LAST_VALUE",
6      LEAD(JMakecost,3) OVER( ORDER BY JMakecost) AS "'LEAD",
7      LAG(JMakecost,3) OVER( ORDER BY JMakecost) AS "'LAG"
8  FROM bill;

```

Result Grid

Filter Rows:

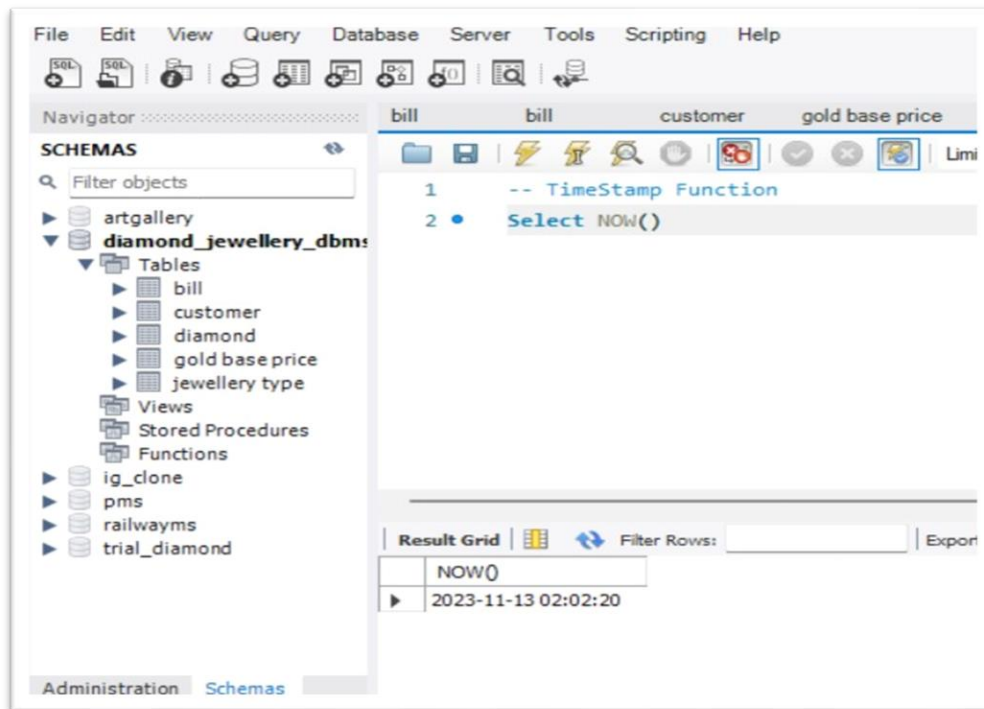
Export: Wrap Cell Content:

	JMakecost	FIRST_VALUE	LAST_VALUE	'LEAD	'LAG
▶	180	180	180	240	NULL
	240	180	240	360	NULL
	240	180	240	480	NULL
	240	180	240	480	180
	360	180	360	960	240
	480	180	480	960	240
	480	180	480	960	240
	960	180	960	960	360
	960	180	960	960	480
	960	180	960	1440	480
	960	180	960	1920	960
	960	180	960	1920	960
	1440	180	1440	1920	960
	1920	180	1920	2160	960
	1920	180	1920	2160	960
	1920	180	1920	2880	1440
	2160	180	2160	2880	1920
	2160	180	2160	3600	1920
	2880	180	2880	3840	1920

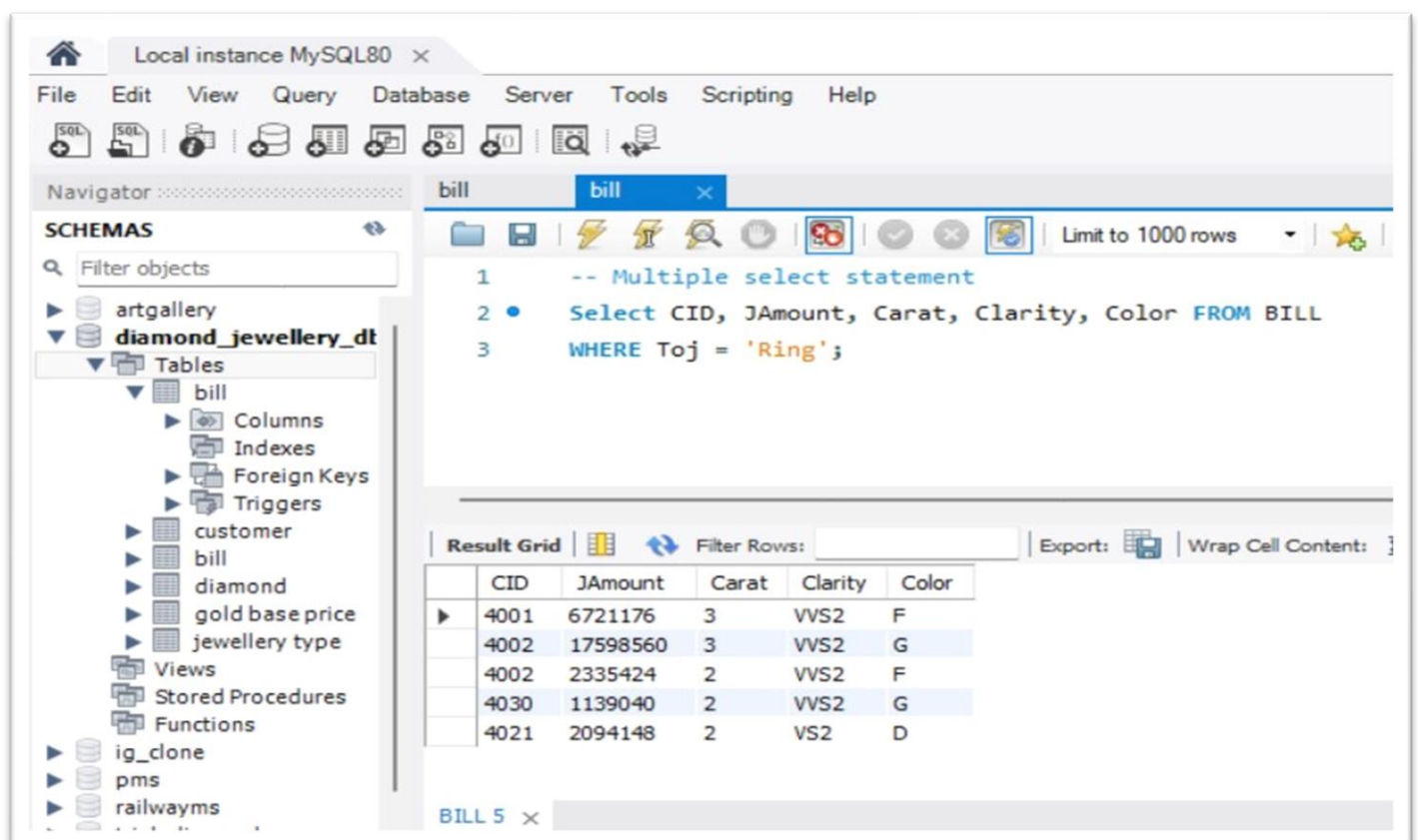
Result 4 ×

Output

- Time Stamp Function



- Multiple Select Statement



- Common Table Expressions

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

- artgallery
- ▼ diamond_jewellery_dbms
 - Tables
 - bill
 - customer
 - diamond
 - gold base price
 - jewellery type
 - Views
 - Stored Procedures
 - Functions
- ig_clone
- pms
- railwayms
- trial_diamond

Administration Schemas Information

No object selected

bill bill customer gold base price customer jewellery type

Limit to 1000 rows

```

1  -- Common Table Expressions (CTE)
2  WITH my_cte AS (
3      Select CID,JAmount,
4      (SELECT avg(JAmount) from bill) AS avg_damount
5      From bill
6  ),
7  my_co AS (
8      SELECT sum(JAmount) as total_JAmount FROM bill
9  )
10 SELECT * FROM my_cte, my_co;
  
```

Result Grid Filter Rows: Export: Wrap Cell Content:

	CID	JAmount	avg_damount	total_JAmount
▶	4001	6721176	4259624.1333	127788724
	4002	17598560	4259624.1333	127788724
	4003	17073280	4259624.1333	127788724
	4004	2630460	4259624.1333	127788724
	4001	4874240	4259624.1333	127788724
	4002	2335424	4259624.1333	127788724
	4003	4074560	4259624.1333	127788724
	4004	487032	4259624.1333	127788724
	4027	468020	4259624.1333	127788724
	4028	935984	4259624.1333	127788724
	4029	2880248	4259624.1333	127788724
	4030	1139040	4259624.1333	127788724
	4027	1663200	4259624.1333	127788724
	4028	1303680	4259624.1333	127788724
	4029	2543856	4259624.1333	127788724
	4030	4273472	4259624.1333	127788724
	4013	5811400	4259624.1333	127788724

- Inner Join Statement

The screenshot shows the MySQL Workbench interface. The 'Schemas' pane on the left displays the 'diamond_jewellery_dt' database with tables 'bill' and 'customer'. The main editor shows the following SQL query:

```

1  -- Inner Join Statement
2  • SELECT * FROM Customer,bill
3  where customer.cid = bill.cid;
4

```

The 'Result Grid' shows the output of the query, displaying columns from both tables joined on the 'cid' field.

CID	Cname	Ccontact	Caddress	Pncode	BID	CID	Date	JID	Toj	Jquantity	Carat	Clarity	Color	DRate
4001	Olivia Smith	+91 223-4567	2197 Broadway, New York, NY	98023	5001	4001	10-07-2023	3001	Ring	1	3	VVS2	F	6653976
4002	Ethan Thompson	+91 345-6789	225 Central Park West, New York, NY	45678	5002	4002	26-10-2023	3001	Ring	3	3	VVS2	G	5836320
4003	Sophia Johnson	+91 456-7890	949 2nd Ave, New York, NY	12346	5003	4003	30-03-2023	3002	Earrings	2	3	VVS2	H	4263840
4004	Benjamin Campbell	+91 567-8901	119 MacDougal St, New York, NY	78901	5004	4004	01-01-2023	3004	Nose Pin	1	2	VVS2	D	2610300
4001	Olivia Smith	+91 223-4567	2197 Broadway, New York, NY	98023	5005	4001	13-01-2023	3005	Toe Rings	1	2	VVS2	E	2419200
4002	Ethan Thompson	+91 345-6789	225 Central Park West, New York, NY	45678	5006	4002	10-09-2023	3001	Ring	1	2	VVS2	F	2326464

- Subquery

The screenshot shows the MySQL Workbench interface. The 'Schemas' pane on the left displays the 'diamond_jewellery_dt' database with tables 'bill' and 'customer'. The main editor shows the following SQL query:

```

1  -- Subquery
2  -- compared Total Purchase vs Avg Purchase
3  • Select CID,JAmount,
4  (SELECT avg(JAmount) from bill) AS avg_damount
5  From bill;
6

```

The 'Result Grid' shows the output of the query, displaying columns from the 'bill' table and the calculated average amount.

CID	JAmount	avg_damount
4001	6721176	4259624.1333
4002	17598560	4259624.1333
4003	17073280	4259624.1333
4004	2630460	4259624.1333
4001	4874240	4259624.1333
4002	2335424	4259624.1333
4003	4074560	4259624.1333

