

The answers of the queries are below

1. Run the provided script to create the database

Table	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> companydim		20	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<input type="checkbox"/> customerdim		51	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<input type="checkbox"/> datedim		300	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<input type="checkbox"/> productdim		40	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<input type="checkbox"/> salefacts		501	InnoDB	utf8mb4_general_ci	144.0 KiB	-
<input type="checkbox"/> warehousedim		10	InnoDB	utf8mb4_general_ci	16.0 KiB	-
6 tables	Sum	922	InnoDB	utf8mb4_general_ci	224.0 KiB	0 B

2. Insert a new product.

```
INSERT INTO ProductDim (ProductKey, ProductName, Brand, UnitPrice)
VALUES (41, 'Mouse', 'Logitech', 9.99);
```

✓ 1 row inserted. (Query took 0.0046 seconds.)

```
INSERT INTO ProductDim (ProductKey, ProductName, Brand, UnitPrice) VALUES (41, 'Mouse', 'Logitech', 9.99);
```

3. Create a new sale fact related to the new product. You can choose any existing customer, warehouse, date and sales office.

```
INSERT INTO SaleFacts (ID, DateKey, CompanyKey, CustomerKey, ProductKey,
WarehouseKey, SalesQuantity)
VALUES (503, 7, 8, 9, 10, 7, 10);
```

✓ 1 row inserted. (Query took 0.0017 seconds.)

```
INSERT INTO SaleFacts (ID, DateKey, CompanyKey, CustomerKey, ProductKey, WarehouseKey, SalesQuantity) VALUES (503, 7, 8, 9, 10, 7, 10);
```

4. For all company branches (CompanyDim table) display branch addresses, emails and states.

```
SELECT BranchAddress, BranchEmail, BranchState  
FROM CompanyDim;
```

✓ Showing rows 0 - 19 (20 total, Query took 0.0004 seconds.)

```
SELECT BranchAddress, BranchEmail, BranchState FROM CompanyDim;
```

		BranchAddress	BranchEmail	Branch State
<input type="checkbox"/>	Edit Copy Delete	358-1857 Sociosqu Av.	Ut@quamPellentesquehabitant.net	Victoria
<input type="checkbox"/>	Edit Copy Delete	Ap #835-8274 Donec St.	ac@sollicitudinadipiscingligula.ca	NSW
<input type="checkbox"/>	Edit Copy Delete	Ap #340-4547 Non Rd.	est@portaelita.co.uk	VIC
<input type="checkbox"/>	Edit Copy Delete	P.O. Box 305, 2430 Nostra, Av.	Duis@eget.org	WA
<input type="checkbox"/>	Edit Copy Delete	P.O. Box 272, 2493 Nulla St.	aliquam.adipiscing@Proin.com	VIC
<input type="checkbox"/>	Edit Copy Delete	980-1420 Cras Rd.	congue.a.aliquet@In.co.uk	NSW
<input type="checkbox"/>	Edit Copy Delete	445-612 Nam Rd.	auctor.velit.eget@sed.ca	NSW
<input type="checkbox"/>	Edit Copy Delete	P.O. Box 733, 8156 Purus, Ave	fringilla@necurna.net	QLD
<input type="checkbox"/>	Edit Copy Delete	722 Arcu Ave	Integer.mollis.Integer@volutpat.edu	TAS
<input type="checkbox"/>	Edit Copy Delete	P.O. Box 611, 6146 Sagittis St.	magna@lectus.net	QLD
<input type="checkbox"/>	Edit Copy Delete	515-4052 Tempus St.	mauris.Suspendisse@venenatis.ca	NSW
<input type="checkbox"/>	Edit Copy Delete	P.O. Box 797, 9133 Erat St.	risus@sagittislobortismauris.edu	NSW
<input type="checkbox"/>	Edit Copy Delete	Ap #106-5740 Nisl Ave	auctor.non@ornarelectusante.com	SA
<input type="checkbox"/>	Edit Copy Delete	1809 Sem, Avenue	odio@eutellus.ca	QLD
<input type="checkbox"/>	Edit Copy Delete	2194 Dapibus Road	convallis@Praesenteu.edu	VIC
<input type="checkbox"/>	Edit Copy Delete	4300 Nulla Rd.	est.tempor.bibendum@risusInmi.org	VIC
<input type="checkbox"/>	Edit Copy Delete	Ap #932-6351 Cum Av.	ac@purussapiengravida.edu	VIC
<input type="checkbox"/>	Edit Copy Delete	710-2824 A Street	elementum.at.egestas@dignissimMaecenasornare.edu	ACT
<input type="checkbox"/>	Edit Copy Delete	4743 Sem. Avenue	imperdiet.ullamcorper.Duis@Donectempor.com	SA
<input type="checkbox"/>	Edit Copy Delete	P.O. Box 126, 3662 Vulputate Rd.	tortor.Nunc@loremutaliquam.ca	NSW

5. Display all customer names from Queensland.

-> (Assuming 'Queensland' is a state and it's shortform is 'QLD')

```
SELECT CustomerName
FROM CustomerDim
WHERE CustomerState = 'QLD';
```

✓ Showing rows 0 - 12 (13 total, Query took 0.0004 seconds.)

```
SELECT CustomerName FROM CustomerDim WHERE CustomerState = 'QLD';
```

CustomerName

Campbell, Chastity J.
Graves, Coby A.
Craig, Callum X.
Donaldson, Hedwig A.
Jacobson, Carissa J.
Lopez, Yardley X.
Vega, Mariam Z.
Prince, Lamar B.
Cummings, Aurelia Z.
Hogan, Jessica K.
Chase, Harriet J.
Stevenson, Zelenia L.
Bernard, Jonah G.

6. Display the total amount of sales for all companies in 2016.

```
SELECT SUM(SalesQuantity * UnitPrice) AS TotalSalesAmount
FROM SaleFacts
JOIN DateDim ON SaleFacts.DateKey = DateDim.DateKey
JOIN ProductDim ON SaleFacts.ProductKey = ProductDim.ProductKey
WHERE DateDim.Year = 2016;
```

✓ Showing rows 0 - 0 (1 total, Query took 0.0025 seconds.)

```
SELECT SUM(SalesQuantity * UnitPrice) AS TotalSalesAmount FROM SaleFacts JOIN DateDim ON SaleFacts.DateKey = DateDim.DateKey JOIN ProductDim ON SaleFacts.ProductKey = ProductDim.ProductKey WHERE DateDim.Year = 2016;
```

TotalSalesAmount

43879.13

7. Display total amount of sales for each company branch separately.

```
SELECT c.BranchAddress, c.BranchState, c.BranchEmail, SUM(s.SalesQuantity *
p.UnitPrice) AS TotalSalesAmount

FROM SaleFacts s

JOIN CompanyDim c ON s.CompanyKey = c.CompanyKey

JOIN ProductDim p ON s.ProductKey = p.ProductKey

GROUP BY c.BranchAddress, c.BranchState, c.BranchEmail;
```

Showing rows 0 - 19 (20 total. Query took 0.0143 seconds.)

```
SELECT c.BranchAddress, c.BranchState, c.BranchEmail, SUM(s.SalesQuantity * p.UnitPrice) AS TotalSalesAmount FROM SaleFacts s JOIN CompanyDim c ON s.CompanyKey = c.CompanyKey JOIN ProductDim p ON s.ProductKey = p.ProductKey GROUP BY c.BranchAddress, c.BranchState, c.BranchEmail;
```

BranchAddress	Branch State	BranchEmail	TotalSalesAmount
1809 Sem, Avenue	QLD	odio@eutellus.ca	6082.26
2194 Dapibus Road	VIC	convallis@Praesenteu.edu	4835.20
358-1857 Sociosqu Av.	Victoria	Ut@quamPellentesquehabitant.net	7265.15
4300 Nulla Rd.	VIC	est.tempor.bibendum@risusInmi.org	5280.16
445-612 Nam Rd.	NSW	auctor.velit.eget@sed.ca	6910.05
4743 Sem, Avenue	SA	imperdiet.ullamcorper.Duis@Donectempor.com	5811.04
515-4052 Tempus St.	NSW	mauris.Suspendisse@venenatis.ca	4730.66
710-2824 A Street	ACT	elementum.at.egestas@dignissimMaecenasornare.edu	7002.89
722 Arcu Ave	TAS	Integer.mollis.Integer@volutpat.edu	6140.37
980-1420 Cras Rd.	NSW	congue.a.aliquet@In.co.uk	5772.27
Ap #106-5740 Nisl Ave	SA	auctor.non@ornarelectusante.com	6395.98
Ap #340-4547 Non Rd.	VIC	est@portaelita.co.uk	7158.96
Ap #835-8274 Donec St.	NSW	ac@sollicitudinadipiscingligula.ca	5518.83
Ap #932-6351 Cum Av.	VIC	ac@purussapiengravida.edu	8279.66
P.O. Box 126, 3662 Vulputate Rd.	NSW	tortor.Nunc@loremutaliquam.ca	7296.68
P.O. Box 272, 2493 Nulla St.	VIC	aliquam.adipiscing@Proin.com	3618.71
P.O. Box 305, 2430 Nostra, Av.	WA	Duis@eget.org	6093.37
P.O. Box 611, 6146 Sagittis St.	QLD	magna@lectus.net	8474.94
P.O. Box 733, 8156 Purus, Ave	QLD	fringilla@necurna.net	6317.80
P.O. Box 797, 9133 Erat St.	NSW	risus@sagittislobortismauris.edu	6484.30

8. Display total amount of sales for each product and state separately, i.e. the output should contain 3 columns: product, state and total amount for this product and state.

```
SELECT p.ProductName, c.CustomerState, SUM(s.SalesQuantity * p.UnitPrice) AS
TotalSalesAmount

FROM SaleFacts s

JOIN ProductDim p ON s.ProductKey = p.ProductKey

JOIN CustomerDim c ON s.CustomerKey = c.CustomerKey

GROUP BY p.ProductName, c.CustomerState;
```

✓ Showing rows 0 - 49 (181 total, Query took 0.0143 seconds.)

```
SELECT p.ProductName, c.CustomerState, SUM(s.SalesQuantity * p.UnitPrice) AS TotalSalesAmount FROM SaleFacts s JOIN ProductDim p ON s.ProductKey = p.ProductKey JOIN CustomerDim c ON s.CustomerKey = c.CustomerKey GROUP BY p.ProductName,
c.CustomerState;
```

(Showing the top few out of 181 only)

ProductName	CustomerState	TotalSalesAmount
Bevel	NSW	480.24
Bevel	QLD	300.15
Bevel	SA	420.21
Bevel	VIC	780.39
Block Laying Pins	NSW	70.65
Block Laying Pins	QLD	282.60
Block Laying Pins	TAS	23.55
Block Laying Pins	VIC	164.85
Block Laying Pins	WA	47.10
Body Suit	QLD	4280.98
Body Suit	SA	1751.31
Body Suit	VIC	194.59
Body Suit	WA	389.18
Cement Mixer	NSW	980.00
Cement Mixer	QLD	1400.00
Cement Mixer	SA	770.00
Cement Mixer	VIC	490.00
Cement Mixer	WA	560.00
Chasing Machine	ACT	457.68
Chasing Machine	NSW	2898.64
Chasing Machine	QLD	1373.04
Chasing Machine	SA	305.12
Chasing Machine	VIC	2593.52
Chasing Machine	WA	152.56
Chop Saw	NSW	278.10

9. Display products sold from warehouses located in New South Wales.

-> (Assuming 'New South Wales' is a region and it's shortform is 'NSW')

```
SELECT p.ProductName
FROM SaleFacts s
JOIN WarehouseDim w ON s.WarehouseKey = w.WarehouseKey
JOIN ProductDim p ON s.ProductKey = p.ProductKey
WHERE w.WarehouseRegion = 'NSW';
```

✓ Showing rows 0 - 24 (161 total, Query took 0.0004 seconds.)

```
SELECT p.ProductName FROM SaleFacts s JOIN WarehouseDim w ON s.WarehouseKey = w.WarehouseKey JOIN ProductDim p ON s.ProductKey = p.ProductKey WHERE w.WarehouseRegion = 'NSW';
```

(Showing the top few out of 161 only)

ProductName
Laser Level
Nail Gun
Bevel
Chasing Machine
Chasing Machine
Lawn Mower
Lawn Mower
Measuring Tape
Staple Gun
Roofing Hammer
Plier
Pipe Cutting Saw
Plaster Hawk
Steel trowel
Hole Saw
Chop Saw
Roofing Hammer
Staple Gun
Plaster Hawk
Skill Saw

10. For each sale, display a customer name and a purchase date.

```
SELECT c.CustomerName, d.SaleDate
FROM SaleFacts s
JOIN CustomerDim c ON s.CustomerKey = c.CustomerKey
JOIN DateDim d ON s.DateKey = d.DateKey;
```

✓ Showing rows 0 - 24 (503 total, Query took 0.0005 seconds.)

```
SELECT c.CustomerName, d.SaleDate FROM SaleFacts s JOIN CustomerDim c ON s.CustomerKey = c.CustomerKey JOIN DateDim d ON s.DateKey = d.DateKey;
```

(Showing the top few out of 503 only)

CustomerName	SaleDate
Workman, Burton W.	2017-03-14
Workman, Burton W.	2016-09-05
Workman, Burton W.	2018-03-22
Workman, Burton W.	2018-07-25
Workman, Burton W.	2017-07-05
Workman, Burton W.	2017-10-17
Workman, Burton W.	2016-10-19
Workman, Burton W.	2017-06-22
Manning, Tatyana A.	2018-10-24
Manning, Tatyana A.	2016-03-05
Manning, Tatyana A.	2016-09-21
Manning, Tatyana A.	2016-08-17
Manning, Tatyana A.	2018-03-30
Manning, Tatyana A.	2016-11-25
Manning, Tatyana A.	2018-11-09
Manning, Tatyana A.	2018-06-04
Manning, Tatyana A.	2017-10-14
Manning, Tatyana A.	2017-10-05
Manning, Tatyana A.	2016-12-05
Manning, Tatyana A.	2018-12-17
Wilcox, Aurelia J.	2016-08-18
Wilcox, Aurelia J.	2017-06-28
Wilcox, Aurelia J.	2018-03-05
Wilcox, Aurelia J.	2018-09-14

11. Display a total number of sales (NOT AMOUNT in \$) for each customer.

```
SELECT c.CustomerName, COUNT(*) AS TotalSales
FROM SaleFacts s
JOIN CustomerDim c ON s.CustomerKey = c.CustomerKey
GROUP BY c.CustomerName;
```

✓ Showing rows 0 - 24 (51 total, Query took 0.0122 seconds.)

```
SELECT c.CustomerName, COUNT(*) AS TotalSales FROM SaleFacts s JOIN CustomerDim c ON s.CustomerKey = c.CustomerKey GROUP BY c.CustomerName;
```

(Showing the top few out of 51 only)

CustomerName	TotalSales
Armstrong, Kirk R.	9
Beck, Wilma H.	9
Bernard, Jonah G.	10
Bezen, Alex	1
Boyd, Charissa T.	10
Britt, Wang K.	10
Burgess, Deacon A.	10
Campbell, Chastity J.	15
Chase, Harriet J.	15
Conrad, Ulric Y.	7
Craig, Callum X.	6
Cummings, Aurelia Z.	16
Davis, Audrey L.	3
Donaldson, Hedwig A.	8
Douglas, Driscoll W.	12
Eaton, Phyllis I.	13
Graves, Coby A.	13
Guerra, Zephania U.	8
Gutierrez, Brynn H.	8
Harper, Hop L.	11
Hickman, Upton D.	7
Hogan, Jessica K.	18
Humphrey, Martha Z.	10
Jacobson, Carissa J.	10
Johnston, Madison S.	9

12. For each sales office (branch), display: branchKey, branch state, a customer name (a customer purchased in this office), a product name purchased by this customer, and a month number of the purchase.

```
SELECT c.CompanyKey, c.BranchState, cust.CustomerName, prod.ProductName,
d.Month

FROM SaleFacts s

JOIN CompanyDim c ON s.CompanyKey = c.CompanyKey

JOIN CustomerDim cust ON s.CustomerKey = cust.CustomerKey

JOIN ProductDim prod ON s.ProductKey = prod.ProductKey

JOIN DateDim d ON s.DateKey = d.DateKey;
```

✓ Showing rows 0 - 24 (503 total. Query took 0.0006 seconds.)

```
SELECT c.CompanyKey, c.BranchState, cust.CustomerName, prod.ProductName, d.Month FROM SaleFacts s JOIN CompanyDim c ON s.CompanyKey = c.CompanyKey JOIN CustomerDim cust ON s.CustomerKey = cust.CustomerKey JOIN ProductDim prod ON s.ProductKey = prod.ProductKey JOIN DateDim d ON s.DateKey = d.DateKey;
```

(Showing the top few out of 51 only)

CompanyKey	Branch State	CustomerName	ProductName	Month
9	TAS	Workman, Burton W.	Cement Mixer	3
17	VIC	Workman, Burton W.	Claw Hammer	9
12	NSW	Workman, Burton W.	Plier Set	3
12	NSW	Workman, Burton W.	Nail Gun	7
19	SA	Workman, Burton W.	Wheel Barrow	7
11	NSW	Workman, Burton W.	Square Set	10
12	NSW	Workman, Burton W.	Nail Gun	10
2	NSW	Workman, Burton W.	Double Ladder	6
9	TAS	Manning, Tatyana A.	Roofing Hammer	10
4	WA	Manning, Tatyana A.	Plier	3
16	VIC	Manning, Tatyana A.	Chasing Machine	9
12	NSW	Manning, Tatyana A.	Screw Driver Set	8
12	NSW	Manning, Tatyana A.	Pipe Duct Glue	3
2	NSW	Manning, Tatyana A.	Tieing Wire	11
14	QLD	Manning, Tatyana A.	Wheel Barrow	11
6	NSW	Manning, Tatyana A.	Plaster Hawk	6
1	Victoria	Manning, Tatyana A.	Pipe Cutting Saw	10

13. Calculate a number (not amount in \$) of sales in the second quarter of 2018.

```
SELECT COUNT(*) AS SalesCount  
FROM SaleFacts s  
JOIN DateDim d ON s.DateKey = d.DateKey  
WHERE d.Year = 2018 AND d.Quarter = 2;
```

Your SQL query has been executed successfully.

```
SELECT COUNT(*) AS SalesCount FROM SaleFacts s JOIN DateDim d ON s.DateKey = d.DateKey WHERE d.Year = 2018 AND d.Quarter = 2;
```

SalesCount

33

14. Display the following sale information: Office branchAddress, customerName,

productName, WarehouseDivision, SaleDate for all offices in Victoria and between 20 January 2017 and 15 May 2017.

```
SELECT c.BranchAddress, cust.CustomerName, prod.ProductName,
w.WarehouseDivision, d.SaleDate

FROM SaleFacts s

JOIN CompanyDim c ON s.CompanyKey = c.CompanyKey

JOIN CustomerDim cust ON s.CustomerKey = cust.CustomerKey

JOIN ProductDim prod ON s.ProductKey = prod.ProductKey

JOIN WarehouseDim w ON s.WarehouseKey = w.WarehouseKey

JOIN DateDim d ON s.DateKey = d.DateKey

WHERE c.BranchState = 'Victoria' AND d.SaleDate BETWEEN '2017-01-20' AND
'2017-05-15';
```

Showing rows 0 - 1 (2 total, Query took 0.0037 seconds.)

```
SELECT c.BranchAddress, cust.CustomerName, prod.ProductName, w.WarehouseDivision, d.SaleDate FROM SaleFacts s JOIN CompanyDim c ON s.CompanyKey = c.CompanyKey JOIN CustomerDim cust ON s.CustomerKey = cust.CustomerKey JOIN ProductDim prod ON s.ProductKey = prod.ProductKey JOIN WarehouseDim w ON s.WarehouseKey = w.WarehouseKey JOIN DateDim d ON s.DateKey = d.DateKey WHERE c.BranchState = 'Victoria' AND d.SaleDate BETWEEN '2017-01-20' AND '2017-05-15';
```

BranchAddress	CustomerName	ProductName	WarehouseDivision	SaleDate
358-1857 Sociosqu Av.	Mcintyre, Marah X.	Roofing Hammer	Tools	2017-02-20
358-1857 Sociosqu Av.	Morris, Samuel Z.	Insulation Saw	Tools	2017-03-23