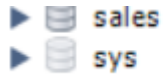


Sales Trend Analysis

– create database sales

create database sales;

OUTPUT;



– -- creating the database online_sales and inserting 50 records into table

```
CREATE TABLE online_sale (  
    order_id INT PRIMARY KEY,  
    order_date DATE,  
    amount DECIMAL(10, 2),  
    product_id INT,  
    country VARCHAR(50),  
    email VARCHAR(100),  
    phone_number VARCHAR(20)  
);
```









```
INSERT INTO online_sale (order_id, order_date, amount, product_id, country, email, phone_number)  
VALUES
```

```
(1, '2023-04-12', 133.68, 107, 'Germany', 'jamesmartin@wright.com', '696-163-7609x4531'),  
(2, '2023-09-14', 387.65, 108, 'Canada', 'mark95@hotmail.com', '422.664.5184'),  
(3, '2023-01-31', 329.69, 103, 'Australia', 'cjohnson@yahoo.com', '420.247.2820x645'),  
(4, '2023-01-10', 316.57, 106, 'USA', 'amber07@hotmail.com', '001-836-599-9927x2'),  
(5, '2023-08-21', 260.72, 102, 'India', 'sandra61@macdonald.com', '(032)198-9322'),  
(6, '2023-09-29', 170.92, 108, 'France', 'twilson@conner.com', '+1-476-036-1904'),  
(7, '2023-04-10', 180.34, 101, 'Brazil', 'cody50@gmail.com', '745.937.9380x190'),  
(8, '2023-07-12', 316.96, 104, 'UK', 'luna.snyder@jones.info', '+1-325-245-6789'),  
(9, '2023-07-01', 91.59, 106, 'Germany', 'heatherhenderson@ramirez.com', '389-748-6343x3684'),  
(10, '2023-02-24', 213.78, 102, 'France', 'susan55@gmail.com', '015.987.2334x377'),  
(11, '2023-03-19', 387.43, 103, 'Brazil', 'davidreynolds@gmail.com', '+44-7892-123456'),  
(12, '2023-06-12', 195.86, 106, 'Germany', 'caitlyn.ross@gmail.com', '132.853.1536x949'),  
(13, '2023-08-14', 354.04, 104, 'India', 'alex73@gmail.com', '+91-9543217890'),  
(14, '2023-10-05', 420.88, 105, 'France', 'stevenboyd@gmail.com', '453-981-8234'),  
(15, '2023-07-07', 348.37, 106, 'UK', 'mcclainstacey@gmail.com', '747.832.1123'),  
(16, '2023-04-13', 377.78, 107, 'Australia', 'lauraking@gmail.com', '+61-412345678'),  
(17, '2023-10-07', 109.77, 105, 'Brazil', 'lawrencestephanie@gmail.com', '754-993-3852'),  
(18, '2023-06-07', 141.53, 101, 'India', 'angela86@hotmail.com', '894.390.9197'),  
(19, '2023-06-19', 441.08, 102, 'India', 'evansalison@perez.com', '+91-9456781230'),  
(20, '2023-10-09', 382.69, 102, 'France', 'ashley46@hotmail.com', '109-053-6594'),  
(21, '2023-07-10', 382.35, 108, 'India', 'jenniferanderson@rice.com', '760-467-7787'),  
(22, '2023-04-04', 426.79, 107, 'Germany', 'nking@hotmail.com', '078.574.3349x9560'),  
(23, '2023-06-28', 281.75, 105, 'Brazil', 'victoria22@yahoo.com', '975-123-4567'),  
(24, '2023-06-25', 418.23, 106, 'Canada', 'jackrogers@smith.com', '+1-516-223-1234'),
```

(25, '2023-01-10', 300.89, 105, 'Canada', 'hallwilliam@gmail.com', '320-521-9344'),
 (26, '2023-04-08', 221.90, 108, 'Brazil', 'kristinarodriguez@davis.net', '098-231-6789'),
 (27, '2023-04-01', 142.19, 105, 'India', 'pfields@arnold.com', '+91-9054312680'),
 (28, '2023-01-20', 242.83, 101, 'France', 'richardconner@gmail.com', '018-384-7561'),
 (29, '2023-07-12', 162.35, 105, 'USA', 'ryan44@gmail.com', '933.310.6782x250'),
 (30, '2023-09-10', 383.10, 101, 'UK', 'tonirhodes@ramsey.com', '+44-745-214-6532'),
 (31, '2023-01-14', 420.00, 106, 'France', 'jeffreywood@decker.com', '344.863.2814'),
 (32, '2023-10-16', 170.62, 108, 'Brazil', 'rebeccaalexander@gmail.com', '881-473-0901'),
 (33, '2023-04-17', 374.52, 108, 'Germany', 'heathermckinney@adams.com', '+49-152-394238'),
 (34, '2023-05-21', 250.70, 106, 'Germany', 'amberbailey@hotmail.com', '302.884.3456'),
 (35, '2023-04-30', 342.49, 106, 'India', 'zmartinez@gmail.com', '+91-9512312345'),
 (36, '2023-05-14', 401.11, 105, 'Canada', 'juliekennedy@hotmail.com', '515-321-6741'),
 (37, '2023-03-08', 424.76, 101, 'Brazil', 'edwardtorres@jones.org', '+55-21-998812345'),
 (38, '2023-08-03', 267.49, 104, 'Australia', 'ashley13@brown.com', '+61-498-123456'),
 (39, '2023-07-21', 198.33, 103, 'UK', 'taylorroberts@gmail.com', '01982 123456'),
 (40, '2023-05-28', 312.50, 107, 'USA', 'nicole32@hall.com', '817-541-7892'),
 (41, '2023-02-10', 135.99, 104, 'India', 'michellemurphy@gmail.com', '+91-9012345678'),
 (42, '2023-09-05', 347.00, 101, 'Germany', 'william93@gmail.com', '090.456.7834'),
 (43, '2023-01-27', 220.75, 103, 'France', 'barbarawright@gmail.com', '0481 987 654'),
 (44, '2023-08-25', 412.10, 104, 'Canada', 'roberthall@hotmail.com', '+1-416-555-0192'),
 (45, '2023-03-30', 239.60, 107, 'UK', 'daniel77@brown.com', '07123 456789'),
 (46, '2023-06-03', 158.47, 105, 'India', 'laura39@gmail.com', '+91-9786543210'),
 (47, '2023-05-09', 276.89, 108, 'Australia', 'kellyanderson@yahoo.com', '+61-429-234567'),
 (48, '2023-02-17', 194.30, 106, 'Brazil', 'williamthomas@hotmail.com', '+55-11-943218765'),
 (49, '2023-10-04', 322.00, 108, 'USA', 'hannahcox@hotmail.com', '909-123-5678'),
 (50, '2023-08-07', 215.95, 102, 'France', 'patricialewis@gmail.com', '01.49.87.65.43');

select * from online_sale;

OUTPUT:

Result Grid   Filter Rows: <input type="text"/> Edit:    Export/Import:   Wrap Cell Content: 							
	order_id	order_date	amount	product_id	country	email	phone_number
▶	1	2023-04-12	133.68	107	Germany	jamesmartin@wright.com	696-163-7609x4531
	2	2023-09-14	387.65	108	Canada	mark95@hotmail.com	422.664.5184
	3	2023-01-31	329.69	103	Australia	cjohnson@yahoo.com	420.247.2820x645
	4	2023-01-10	316.57	106	USA	amber07@hotmail.com	001-836-599-9927x2
	5	2023-08-21	260.72	102	India	sandra61@macdonald.com	(032)198-9322
	6	2023-09-29	170.92	108	France	twilson@conner.com	+1-476-036-1904
	7	2023-04-10	180.34	101	Brazil	cody50@gmail.com	745.937.9380x190
	8	2023-07-12	316.96	104	UK	luna.snyder@jones.info	+1-325-245-6789
	9	2023-07-01	91.59	106	Germany	heatherhenderson@ramirez.com	389-748-6343x3684
	10	2023-02-24	213.78	102	France	susan55@gmail.com	015.987.2334x377
	11	2023-03-19	387.43	103	Brazil	davidreynolds@gmail.com	+44-7892-123456
	12	2023-06-12	195.86	106	Germany	caitlyn.ross@gmail.com	132.853.1536x949

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- **SQL Query for Monthly Revenue and order volume**
- **Groups by year and month from order_date**
- **Sums the revenue from amount**
- **Counts the distinct number of order_id**
- **Sorts the results**

```
SELECT
    EXTRACT(YEAR FROM order_date) AS order_year,
    EXTRACT(MONTH FROM order_date) AS order_month,
    SUM(amount) AS total_revenue,
    COUNT(DISTINCT order_id) AS order_volume
FROM
    online_sales
GROUP BY
    EXTRACT(YEAR FROM order_date),
    EXTRACT(MONTH FROM order_date)
ORDER BY
    order_year,
    order_month;
```


OUTPUT:

	order_year	order_month	total_revenue	order_volume
--	------------	-------------	---------------	--------------

- **SQL Query on top 3 months by sales**
- **finding top 3 months by total_revenue**

```
SELECT extract(YEAR FROM order_date) AS order_year,
extract(MONTH FROM order_date) AS order_month,
sum(amount) AS total_revenue FROM online_sale
group by order_year, order_month order by total_revenue desc limit 3;
```

OUTPUT:

Result Grid  Filter Rows: <input type="text"/>				
	order_year	order_month	total_revenue	
▶	2023	4	2199.69	
	2023	1	1830.73	
	2023	6	1636.92	

- **SQL Query on Monthly Average Order Value(AOV)**
- **This Query shows the average value per order each month**

```
select extract(year from order_date) as order_year,
extract(month from order_date) as order_month,
sum(amount) / count(distinct order_id) as avg_order_value from online_sale
group by order_year, order_month order by order_year, order_month;
```

OUTPUT:

	order_year	order_month	avg_order_value
▶	2023	1	305.121667
	2023	2	181.356667
	2023	3	350.596667
	2023	4	274.961250
	2023	5	310.300000
	2023	6	272.820000
	2023	7	249.991667
	2023	8	302.060000
	2023	9	322.167500
	2023	10	281.192000

-- SQL Query on Monthly Total Number of Products Sold

-- So Assuming each row = one product sold this query shows how many products were sold each month

```
select extract(year from order_date) as order_year,  
extract(month from order_date) as order_month,  
count(product_id) as total_products_sold from online_sale  
group by order_year, order_month  
order by order_year, order_month;
```

OUTPUT:

	order_year	order_month	total_products_sold
▶	2023	1	6
	2023	2	3
	2023	3	3
	2023	4	8
	2023	5	4
	2023	6	6
	2023	7	6
	2023	8	5
	2023	9	4
	2023	10	5

-- SQL Query revenue by product top 5 products

```
select product_id, sum(amount) as total_revenue  
from online_sale group by product_id order by total_revenue desc limit 5;
```

OUTPUT:

	product_id	total_revenue
▶	106	2578.11
	108	2306.85
	105	1977.41
	101	1719.56
	102	1514.22

-- SQL Query orders count per product

```
select product_id, count(distinct order_id) as number_of_orders
from online_sale group by product_id order by number_of_orders desc;
```

OUTPUT:

	product_id	number_of_orders
▶	106	9
	105	8
	108	8
	101	6
	102	5
	104	5
	107	5
	103	4

-- SQL Query Country with highest revenue

```
select country, sum(amount) as total_revenue from online_sale
group by country order by total_revenue desc limit 1;
```

OUTPUT:

	country	total_revenue
▶	India	2358.86

-- SQL Query for a specific month thats on march 2023

```
select * from online_sale where order_date between '2023-03-01' and '2023-03-31';
```

OUTPUT:

Result Grid							
Filter Rows:							
	order_id	order_date	amount	product_id	country	email	phone_number
▶	11	2023-03-19	387.43	103	Brazil	davidreynolds@gmail.com	+44-7892-123456
	37	2023-03-08	424.76	101	Brazil	edwardtorres@jones.org	+55-21-998812345
	45	2023-03-30	239.60	107	UK	daniel77@brown.com	07123 456789
✱	NULL	NULL	NULL	NULL	NULL	NULL	NULL

-- SQL Query for a specific quater 2023

select * from online_sale where order_date between '2023-01-01'and'2023-03-31';

OUTPUT:

Result Grid							
Filter Rows:							
	order_id	order_date	amount	product_id	country	email	phone_number
▶	3	2023-01-31	329.69	103	Australia	cjohnson@yahoo.com	420.247.2820x645
	4	2023-01-10	316.57	106	USA	amber07@hotmail.com	001-836-599-9927x2
	10	2023-02-24	213.78	102	France	susan55@gmail.com	015.987.2334x377
	11	2023-03-19	387.43	103	Brazil	davidreynolds@gmail.com	+44-7892-123456
	25	2023-01-10	300.89	105	Canada	hallwilliam@gmail.com	320-521-9344
	28	2023-01-20	242.83	101	France	richardconner@gmail.com	018-384-7561
	31	2023-01-14	420.00	106	France	jeffreywood@decker.com	344.863.2814
	37	2023-03-08	424.76	101	Brazil	edwardtorres@jones.org	+55-21-998812345
	41	2023-02-10	135.99	104	India	micellemurphy@gmail.com	+91-9012345678
	43	2023-01-27	220.75	103	France	barbarawright@gmail.com	0481 987 654
	45	2023-03-30	239.60	107	UK	daniel77@brown.com	07123 456789
	48	2023-02-17	194.30	106	Brazil	williamthomas@hotmail.com	+55-11-943218765

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