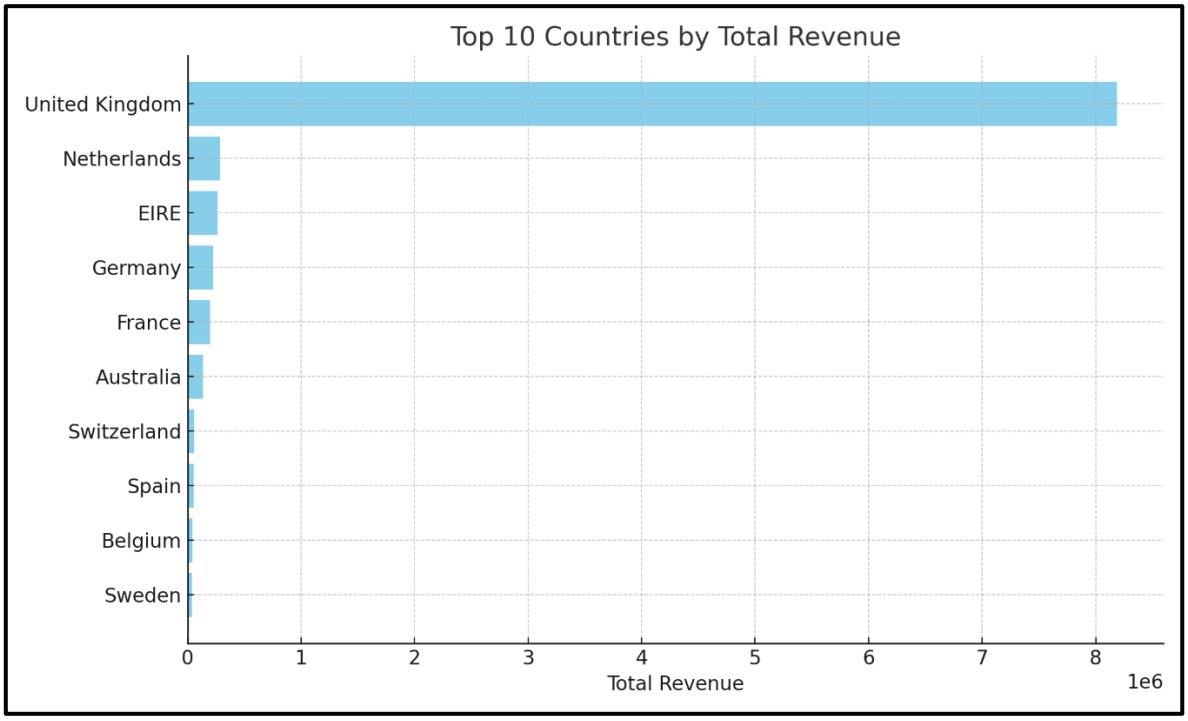
TASK - 3

1. Top 10 countries by Total Revenue

QUERY:

```
SELECT Country, ROUND(SUM(Quantity * UnitPrice), 2) AS
TotalRevenue
FROM ecommerce
GROUP BY Country
ORDER BY TotalRevenue DESC
LIMIT 10;
```

OUTPUT:

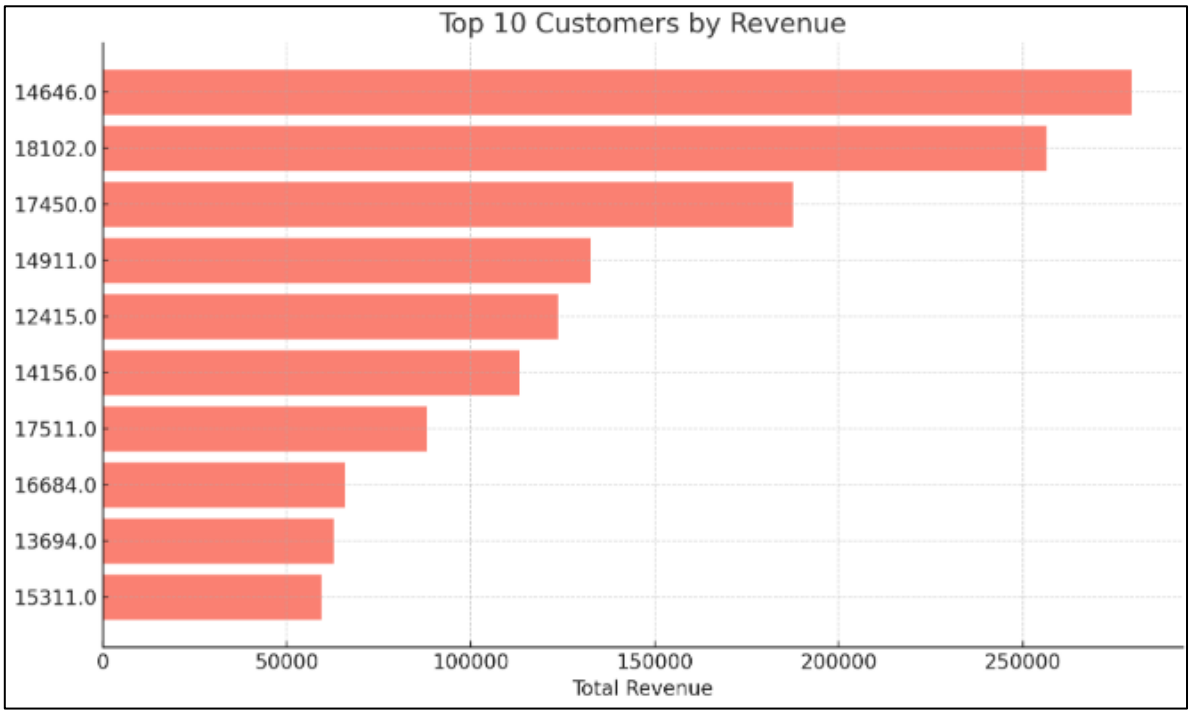


2. Top 10 customers by total and average revenue per transaction

QUERY:

```
SELECT CustomerID, ROUND(SUM(Quantity * UnitPrice), 2) AS
TotalRevenue,
       ROUND(AVG(Quantity * UnitPrice), 2) AS
AvgRevenuePerTransaction
FROM ecommerce
WHERE CustomerID IS NOT NULL
GROUP BY CustomerID
ORDER BY TotalRevenue DESC
LIMIT 10;
```

OUTPUT:

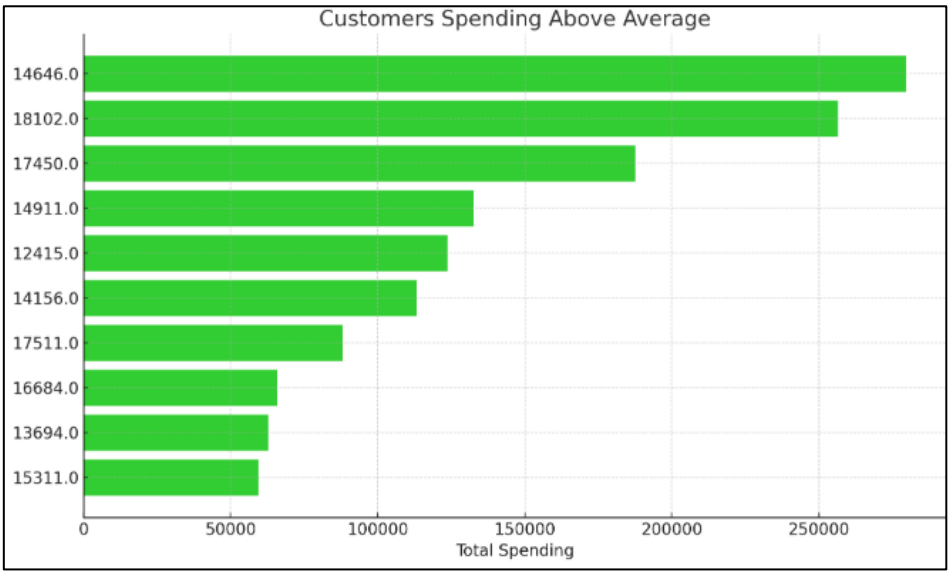


 # 3. Subquery to find customers who spent more than the average total spending.

QUERY:

```
SELECT CustomerID, ROUND(SUM(Quantity * UnitPrice), 2) AS
TotalSpending
FROM ecommerce
WHERE CustomerID IS NOT NULL
GROUP BY CustomerID
HAVING TotalSpending > (
    SELECT AVG(TotalSpend)
    FROM (
        SELECT CustomerID, SUM(Quantity * UnitPrice) AS
TotalSpend
        FROM ecommerce
        WHERE CustomerID IS NOT NULL
        GROUP BY CustomerID
    )
)
ORDER BY TotalSpending DESC
LIMIT 10;
```

OUTPUT:

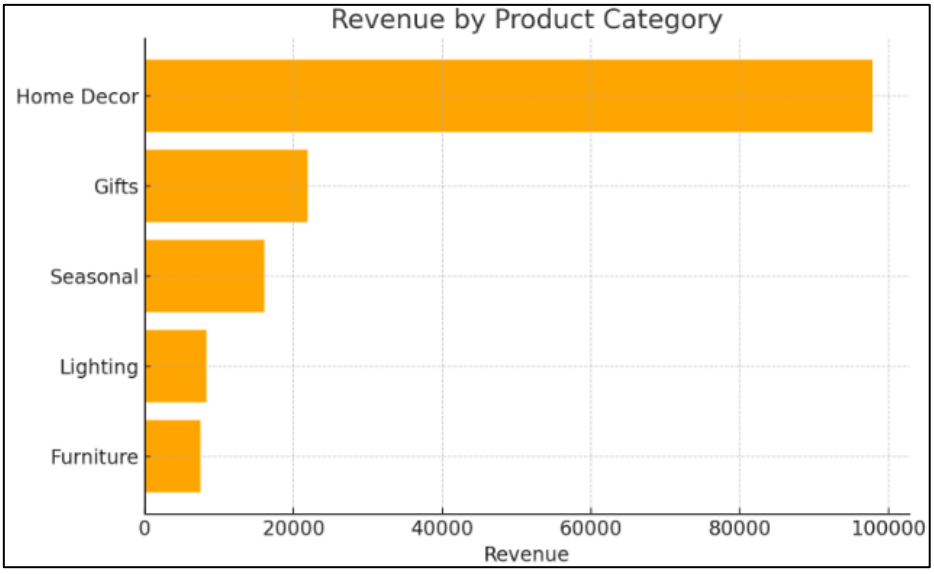


 # 4. JOIN between products and their categories to compute category-wise revenue.

QUERY:

```
SELECT ec.StockCode, pc.Category, ROUND(SUM(ec.Quantity *
ec.UnitPrice), 2) AS Revenue

FROM ecommerce ec

JOIN product_category pc ON ec.StockCode = pc.StockCode

GROUP BY ec.StockCode, pc.Category

ORDER BY Revenue DESC;
```

OUTPUT:



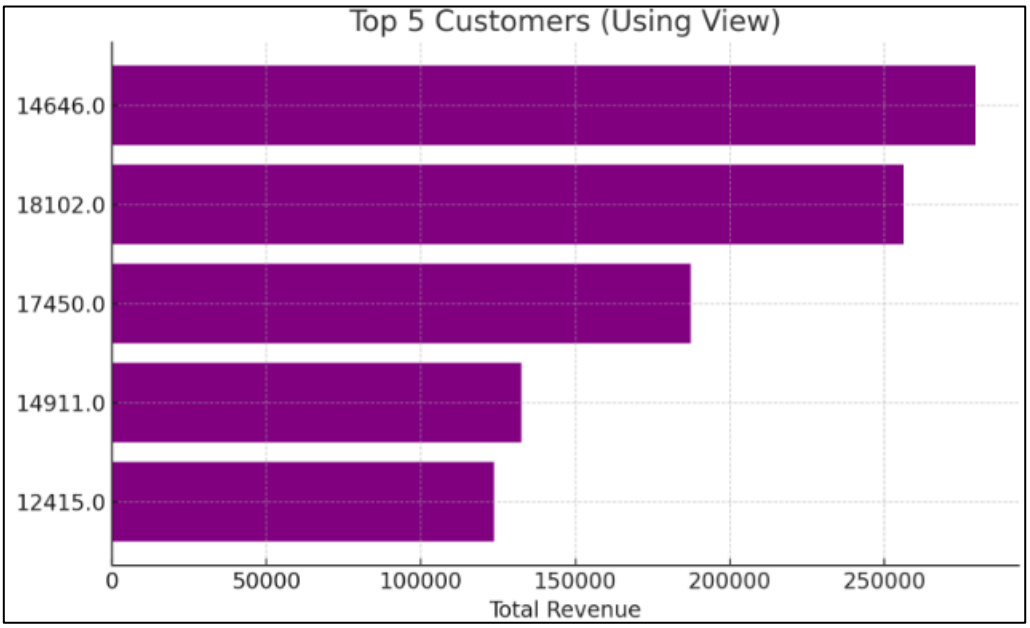
5. Created a view customer_revenue and used it to get top customers.

QUERY:

```
CREATE VIEW customer_revenue AS

SELECT CustomerID, ROUND(SUM(Quantity * UnitPrice), 2) AS
TotalRevenue

FROM ecommerce

WHERE CustomerID IS NOT NULL

GROUP BY CustomerID;
```

```
SELECT * FROM customer_revenue ORDER BY TotalRevenue DESC
LIMIT 5;
```

OUTPUT:

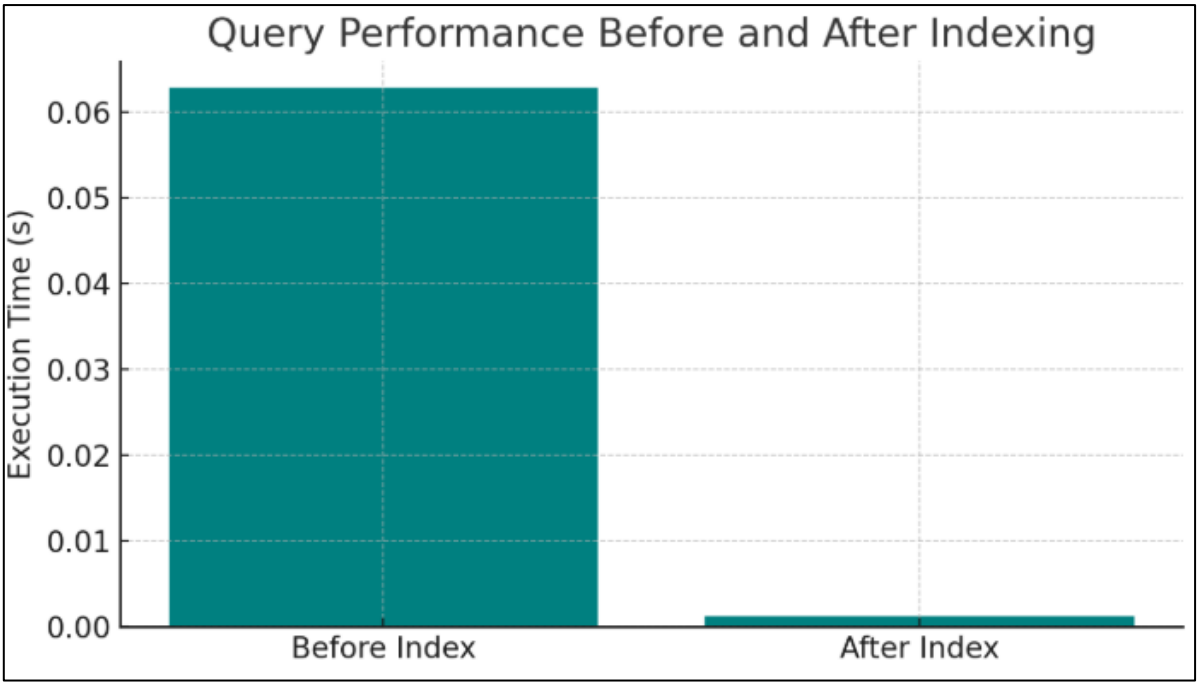


6. Compared performance before and after creating an index on CustomerID.

QUERY:

```
CREATE INDEX idx_customer_id ON ecommerce(CustomerID);
```

OUTPUT:



Dataset used: https://www.kaggle.com/datasets/carrie1/ecommerce-data?resource=download