**SQL Test And Solution**

In this test you will be presented with a simple data model and some sample records for each of the tables. You will then be asked a series of questions which you should attempt to answer with a simple SQL statement. Specific syntax is not important, more how you think and how you would approach the problem. Pseudo code is perfectly acceptable.

Diagram

Description automatically generated with medium confidence

Table

Description automatically generated

Table

Description automatically generated

**Solutions To SQL Test**

Question 1

How many customers do we have?

Solution

Select COUNT (customer\_id) From Customer

Answer: 7

Question 2

What is the average revenue per customer?

Solution

Select SUM (total\_price\_paid)/7 From Subscription

Answer: 168.29

Question 3

How much revenue did we make each year?

Solution

CREATE PROCEDURE AvgTotalPricePaid @startdate date

AS

SELECT AVG(total\_price\_paid), start\_date FROM Subscription WHERE start\_date = @startdate Group By start\_date

GO

EXEC AvgTotalPricePaid @startdate = '01/01/2018'

EXEC AvgTotalPricePaid @startdate = '01/01/2019'

Answer: 102 for 2018

128 for 2019

Question 4

How many subscriptions are there for each age band?

Solution

Select COUNT (Subscription.subs\_id) AS TotalSubs, Customer.age\_band

From Subscription

RIGHT JOIN Customer ON Subscription.customer\_id = Customer.customer\_id

GROUP BY Customer.age\_band

ORDER BY Customer.age\_band

Answer:Age band 35-44 had the most subscriptions

**Total Subs age\_band**

3 25-34

4 35-44

1 45-54

2 55-64

Question 5

Which magazine has the most customers?

Solution

Select COUNT(Subscription.mag\_code) AS CustomerPerMagazine, Subscription.mag\_code, Magazine.brand

From Subscription

RIGHT JOIN Magazine ON Subscription.mag\_code = Magazine.mag\_code

GROUP BY Magazine.brand, Subscription.mag\_code

ORDER BY Subscription.mag\_code DESC

Output: Radio Times Magazine had the most customers

**CustomerPermagazine Mag\_code Brand**

3 RT Radio Times

1 OM Olive Magazine

2 HE History Extra

2 GW Gardeners World

2 GF Good food

Question 6

Which customer has generated the most value this year?

Solution

Select SUM(Subscription.total\_price\_paid) AS CustomerValue, Subscription.customer\_id, Subscription.start\_date

From Subscription

WHERE start\_date IN ('01/01/2018', '01/01/2019')

GROUP BY Subscription.customer\_id, Subscription.start\_date

ORDER BY CustomerValue DESC

Answer: Customer\_id number 4 had the most customer value in 2018

**CusterValue Customer\_id start\_date**

305 4 2018-01-01

165 2 2019-01-01

150 5 2019-01-01

150 6 2019-01-01

140 2 2018-01-01

100 7 2019-01-01

75 3 2019-01-01

65 1 2018-01-01

Question 7

What is the average number of subscriptions per customer?

Solution

Select AVG(Subscription.subs\_id) AS AVGSubs, Subscription.customer\_id

From Subscription

Group BY Subscription.customer\_id

ORDER BY AVGSubs DESC

Answer

**AVGSubs Customer\_id**

10 7

9 6

8 5

6 4

4 3

2 2

1 1

Question 8

Which magazine has shown the biggest year on year growth?

Solution

Select SUM(Subscription.total\_price\_paid) AS MagazineValue, Subscription.mag\_code, Magazine.brand, Subscription.start\_date

From Subscription

RIGHT JOIN Magazine ON Subscription.mag\_code = Magazine.mag\_code

WHERE Subscription.start\_data IN ('01/01/2018', '01/01/2019')

GROUP BY Magazine.brand,Subscription.mag\_code, Subscription.start\_date

ORDER BY MagazineValue DESC

Answer:

**MagazineValue Mag\_code Brand Start Date**

300 HE History Extra 2019-01-01

220 GW Gardeners World 2018-01-01

165 RT Radio Times 2019-01-01

150 GF Good food 2018-01-01

140 RT Radio Times 2018-01-01

100 OM Olive Magazine 2019-01-01

75 GF Good food 2019-01-01

Question 9

Which category appeals most to the age band 35-44?

Solution

Select Magazine.category, Customer.age\_band

From Subscription

RIGHT JOIN Customer ON Subscription.customer\_id = Customer.customer\_id

RIGHT JOIN Magazine ON Subscription.mag\_code = Magazine.mag\_code

WHERE Customer.age\_band = '35-44'

GROUP BY Magazine.category, Customer.age\_band

Answer:

**Category** **Age band**

Food 35-44

Special Interest 35-44

TV and film 35-44

Question 10

How many issues of RadioTimes have been dispatched so far this year?

Solution

Select SUM(Subscription.end\_issue - Subscription.start\_issue) AS TotalIssue, Subscription.mag\_code, Magazine.brand

From Subscription

RIGHT JOIN Magazine ON Subscription.mag\_code = Magazine.mag\_code

WHERE Subscription.mag\_code = 'RT'

GROUP BY Subscription.mag\_code, Magazine.brand

Answer

**TotalIssue mag\_code Brand**

130 RT Radio Times