THE ICONIC Interview Assignment
PART-1 SQL

Looking at data

```
sqlite>
sqlite>
sqlite> .tables
customers
sqlite> .schema customers
CREATE TABLE customers (customer_id varchar(32), days_since_first_order int, days_since_last_order int, is_newsletter_subscriber
 devices int, vouchers int, cc_payments int, paypal_payments int, afterpay_payments int, apple_payments int, female_items int, m
t, mftw_items int, wspt_items int, mspt_items int, curvy_items int, sacc_items int, msite_orders int, desktop_orders int, androi
t, other_collection_orders int, redpen_discount_used real, coupon_discount_applied real, average_discount_onoffer real, average_
sqlite> SELECT * FROM customers LIMIT 5;
64f7d7dd7a59bba7168cc9c960a5c60e|2091|15672|N|17|50|0|1|0|4|1|3|1|0|0|0|46|2|2|35|7|2|1|1|0|4|0|0|0|0|17|0|0|0|0|1|0|16|4554.39|
fa7c64efd5c037ff2abcce571f9c1712|2082|528|Y|13|26|0|5|0|4|2|0|0|1|0|0|24|0|2|16|2|0|4|4|0|3|0|0|0|12|1|0|0|0|9|0|4|629.03|0.0|
18923c9361f27583d2320951435e4888|2072|144|Y|71|152|2|2|1|6|2|3|1|0|1|0|147|3|2|96|33|2|17|17|0|3|0|0|0|10|61|0|0|0|11|0|60|626
aa21f31def4edbdcead818afcdfc4d32|2054|49200|Y|2|2|0|0|0|1|1|1|1|0|0|0|0|0|2|1|0|1|0|0|0|0|0|0|0|0|2|0|0|0|0|0|0|2|0.0|90.9|0.0|3
668c6aac52ff54d4828ad379cdb38e7d|2053|49272|Y|1|1|0|0|0|1|1|0|1|0|0|0|1|0|0|0|1|0|0|0|0|0|0|0|0|0|0|0|0|0|1|0|0|0|0|0|0|1|0.0|0.0|0.0|0.
sqlite> ▮
```

Task-1

What was the total revenue to the nearest dollar for customers who have paid by credit card?

```sql
SELECT min(cc_payments), max(cc_payments) FROM customers;
0|1

SELECT round(sum(revenue)) FROM customers WHERE cc_payments == 1;
50372282.0
```

Output :

```
50372282.0
```

Task-2

What percentage of customers who have purchased female items have paid by credit card?

```sql
SELECT sum(female_items) as total FROM customers;
299232

SELECT sum(female_items) as total FROM customers
WHERE cc_payments == 1;
244657

with left as (
  SELECT 1 as joinkey, sum(female_items) as total FROM customers
),
right as (
  SELECT 1 as joinkey, sum(female_items) as credit FROM customers
  WHERE cc_payments == 1
)
SELECT (right.credit * 100)/left.total as percent
FROM left join right on left.joinkey = right.joinkey;
81
```

Output :

81

Task-3

What was the average revenue for customers who used either iOS, Android or Desktop?

```
SELECT avg(revenue) FROM customers WHERE desktop_orders > 0 OR
android_orders > 0 OR ios_orders > 0;
1484.88911776937
```

Output :

```
1484.88911776937
```

Task-4

We want to run an email campaign promoting a new men's luxury brand. Can you provide a list of customers we should send to?

```
WITH
grp1 as (SELECT customer_id FROM customers ORDER BY mspt_items desc
limit 10),
grp2 as (SELECT customer_id FROM customers ORDER BY macc_items desc
limit 10),
grp3 as (SELECT customer_id FROM customers ORDER BY mftw_items desc
limit 10),
grp4 as (SELECT customer_id FROM customers ORDER BY mapp_items desc
limit 10),
grp5 as (SELECT customer_id FROM customers ORDER BY male_items desc
limit 10)

SELECT customer_id FROM grp1 UNION
SELECT customer_id FROM grp2 UNION
SELECT customer_id FROM grp3 UNION
SELECT customer_id FROM grp4 UNION
SELECT customer_id FROM grp5;
```

Output :

0764d7055de410edd47abab5fe4b5462 139668f4a8fd7a377a1fedf7f51cfdf6 1e7ffc48742ff21b4f3750107653c32b 1f3fee16c0081df26b0384e8d1b04c7d 2b2ba849e9346685335e3059376f7813 2ba53dd06f85dedc76b9d2b35d1819e8 2f9421a3a2496dec5f13e996dce2fe6c 342d1d5984a7c60000ded54f4bdc0fcf 39dd391c47916556877221bbb893f6e0 45e4dbc889cdedd7376954e5733b587b 4684f6ee6b561659fbb2a24e230916fd 48ee0cf6edb07a252ea1a075ff74b2aa 4d466a51ef2870aee3f5b4cf2ef775ea 501b69a3cb27ac20bde129a9f53f2b94 54b28212211322c734b33bcdfd3d66cd 5650079274bbea2339debe7db51daf04 5f16f05ae8b024e6586f440f5a2b7638 6ec13d41222523f952724d3303e18ee7	831f5c4a687ce4d55164110cb18677c5 8e4eb0a02e0f1bde77052880388ce26d 8f7d4ca6ceb8d0262069b8230130db12 93a4122d47b21372447d72f90c25dc78 a200486666a979b783b0c9403b363ed6 a4c0fdea70e5cbb58b5d542ccd62e7b9 aee081db9a25cfcce8ff6a8e70454cdd bd2d01a5f8be94b7161770ff4ca0d6b0 c3d94c054eb11c0f90da5693f8f4318c c8b0c2a91edc1779e8e78af8574ee904 cc1d2f2ddcddae7acc2c9201631aadcc cca2a9f7290a3319857d3256992c79c3 d25dd8d8e86c33eebbceffb79a7a3bd1 e41aee664e3e9aa3731b9c687b914a48 e97dfc20296badd127730f1c136eebd6 70ffbb7d0356d47ebbd7b2288e16a064 7da8a71e7238941d4686909701567d95 7ff0e99eaff232cdc8300b749f8d2993

Task 4-v2

Second approach for task 4, to respect user preferences for better user experience.

```sql
WITH
grp1 as (SELECT customer_id FROM customers WHERE is_newsletter_subscriber =
'Y' ORDER BY mspt_items desc limit 10),
grp2 as (SELECT customer_id FROM customers WHERE is_newsletter_subscriber =
'Y' ORDER BY macc_items desc limit 10),
grp3 as (SELECT customer_id FROM customers WHERE is_newsletter_subscriber =
'Y' ORDER BY mftw_items desc limit 10),
grp4 as (SELECT customer_id FROM customers WHERE is_newsletter_subscriber =
'Y' ORDER BY mapp_items desc limit 10),
grp5 as (SELECT customer_id FROM customers WHERE is_newsletter_subscriber =
'Y' ORDER BY male_items desc limit 10)

SELECT customer_id FROM grp1 UNION
```

```sql
SELECT customer_id FROM grp2 UNION
SELECT customer_id FROM grp3 UNION
SELECT customer_id FROM grp4 UNION
SELECT customer_id FROM grp5;
```

Output :

0764d7055de410edd47abab5fe4b5462 139668f4a8fd7a377a1fedf7f51cfdf6 1856773ca1c9666f673256ffcdc8ab90 2b2ba849e9346685335e3059376f7813 2ba53dd06f85dedc76b9d2b35d1819e8 31497f1c6c52e863d412a065306d9da1 342d1d5984a7c60000ded54f4bdc0fcf 39dd391c47916556877221bbb893f6e0 45e4dbc889cdedd7376954e5733b587b 4684f6ee6b561659fbb2a24e230916fd 48ee0cf6edb07a252ea1a075ff74b2aa 4d466a51ef2870aee3f5b4cf2ef775ea 501b69a3cb27ac20bde129a9f53f2b94 5650079274bbea2339debe7db51daf04 6284e01d725e8d99910714ccc3e458a1 6ec13d41222523f952724d3303e18ee7 7554a7c45ed3711ea83d990a31e75134 7da8a71e7238941d4686909701567d95 e97dfc20296badd127730f1c136eebd6 ee0b068594debfce10bfff72e714e9fd	7ff0e99eaff232cdc8300b749f8d2993 81c1b5c08396fe1582694749f62d82d9 831f5c4a687ce4d55164110cb18677c5 8e4eb0a02e0f1bde77052880388ce26d 8f7d4ca6ceb8d0262069b8230130db12 93a4122d47b21372447d72f90c25dc78 a8b087891523e54c8cd99b424c2e855e aee081db9a25cfcce8ff6a8e70454cdd bb2b0c779b2ce1771dcd2dec92a13b01 bd2d01a5f8be94b7161770ff4ca0d6b0 c3d94c054eb11c0f90da5693f8f4318c c718b120606b01bb54e83a181205d716 c872915aede8988a993517156daa7dcc c8b0c2a91edc1779e8e78af8574ee904 c9033519f7b202c9f52e60e9c5625eea cca2a9f7290a3319857d3256992c79c3 d25dd8d8e86c33eebbceffb79a7a3bd1 e0539d6a4b279742569c60dd6d1677d4 e4106b7f2ce74235b3fa66e66bbbeb02 e41aee664e3e9aa3731b9c687b914a48