SQL

Given a table: ORDERS with following columns
- CUSTOMER_ID
- DAY_OF_ORDER
- PRODUCT
- PRICE

Artemp: started 9:57 am 2021-01-28

Q1. Write SQL query to find customers who have bought BOTH products 'iPhone 5s' AND also 'Samsung Note'.

```
SELECT * FROM ORDERS
WHERE PRODUCT IN (‘iPhone 5s’,  'Samsung Note’)
```

Finished 9:59 am

Started 10:00 am

Q2. For all customers who have at least two orders, what is the average number of days elapsed between 1st and 2nd order (do not worry about using exact date functions)

```
SELECT AVG(
—second date
(SELECT MIN
(SELECT COUNT(PRODUCT) FROM ORDERS
GROUP BY CUSTOMER_ID
HAVING COUNT(PRODUCT)  >= 2
AND DAY_OF_ORDER  >

—subquery for the first date
(SELECT MIN
(SELECT COUNT(PRODUCT) FROM ORDERS
GROUP BY CUSTOMER_ID
HAVING COUNT(PRODUCT)  >= 2
ORDER BY DAY_OF_ORDER) )

ORDER BY DAY_OF_ORDER))
-     —this is a minus sign here, so that we can subtract date2-date1
—first date
(SELECT MIN
(SELECT COUNT(PRODUCT) FROM ORDERS
GROUP BY CUSTOMER_ID
HAVING COUNT(PRODUCT)  >= 2
ORDER BY DAY_OF_ORDER) ))

FROM  ORDERS
GROUP BY CUSTOMER_ID
```

Finished 10:32 am

PYTHON

Q1: Implement to_bin(n) function -

```
# Given a number as input write a function that returns a
# string with binary representation of a positive integer number
# We would like you to write the algorithm to generate this
# binary representation in string format without library functions
```

ArtemP started: 2021-01-28 10:34 am

```
#
def to_bin(n):
   # write your code here

   bin_str=bin(n)[2:]


   return bin_str

# Sample test cases to verify functionality
```

```
assert to_bin(2) == '10'
assert to_bin(7) == '111'
assert to_bin(45) == '101101'
assert to_bin(32) == '100000'
assert to_bin(0) == '0'
```

finished 10:36 am

Q2: Implement a function to extract out all string literals from a SQL string return them in a sorted list

```
def extract_string_literals(str):
    import regex
    str_literal_list=regex.findall(r'" '.*?' ‘", str)
    return str_literal_list

# Sample test cases to verify functionality
assert extract_string_literals("select * from order where orderid = 'OEHKJHFUI' and product = 'Iphone 5s'") = ['Iphone 5s', 'OEHKJHFUI']
assert extract_string_literals("select * from inventory") = []
assert extract_string_literals("select * from order where orderid in ('o1','o2','o1')") = ['o1', 'o1', 'o2']
```

Finished 10:45 am