

TASK 2: SQL

Table name: Customer

CUSTOMER	COUNTRY	INDUSTRY
C1	DE	AUTOMOTIVE
C2	DE	AUTOMOTIVE
C3	DE	HEALTHCARE
C4	IT	HEALTHCARE
C5	EN	HEALTHCARE
C6	EN	HEALTHCARE

Table name: Sales

SALE_ID	INVOICE_TOTAL	CUSTOMER_ID	SALE_DATE
S1	10	C1	20.04.2016
S2	56	C2	20.04.2016
S3	115	C2	20.04.2016
S4	120	C1	20.05.2016
S5	9	C4	20.02.2016

a) Write a SQL query that displays the number of customers per industry.

```
WITH BASE AS (  
  SELECT INDUSTRY, COUNT(DISTINCT CUSTOMER) AS NUMBER_OF_CUSTOMERS  
  FROM Customer  
  GROUP BY 1  
)  
  
SELECT *  
FROM BASE
```

b) Write a SQL query that displays the average invoice total per industry.

```
WITH BASE AS (  
  SELECT a.INDUSTRY, COALESCE(AVG(b.INVOICE_TOTAL),0) AS  
  AVERAGE_INVOICE_TOTAL  
  FROM Customer a  
  LEFT JOIN Sales b ON b.CUSTOMER_ID = a.CUSTOMER  
  GROUP BY 1  
)  
  
SELECT *  
FROM BASE
```

c) Write a SQL query that displays what each customer spent per month, if that value is bigger than 100.

```
WITH BASE AS (  
  SELECT DATE_TRUNC('month',b.SALE_DATE) AS SALE_DATE_MONTH,  
         a.CUSTOMER,  
         SUM(b.INVOICE_TOTAL) AS SUM_INVOICE_TOTAL  
  FROM Customer a  
  LEFT JOIN Sales b ON b.CUSTOMER_ID = a.CUSTOMER  
  GROUP BY 1,2  
  HAVING SUM(b.INVOICE_TOTAL) > 100  
)  
  
SELECT *  
FROM BASE
```

d) Write a SQL query that ranks clients within Industry based on respective sales total.

```
WITH BASE AS (  
  SELECT a.INDUSTRY,  
         a.CUSTOMER,  
         SUM(b.INVOICE_TOTAL) AS SUM_INVOICE_TOTAL  
  FROM Customer a  
  LEFT JOIN Sales b ON b.CUSTOMER_ID = a.CUSTOMER  
  GROUP BY 1,2  
  ORDER BY 1,3 desc  
)  
  
SELECT a.*,  
       RANK() OVER (PARTITION BY a.INDUSTRY ORDER BY  
                    a.SUM_INVOICE_TOTAL DESC) AS Ranking  
FROM BASE a
```