How many clients does the bank have and are above the age of 50?

```sql
SELECT Count(*)
FROM basic_client_info
WHERE customer_age > 50
```

What's the distribution (in %) between male and female clients?

```sql
WITH
    joined
    AS (SELECT *
         FROM   bankchurners
          JOIN basic_client_info USING(clientnum)),
    gender
    AS (SELECT gender,
        Count(clientnum) gender_count
        FROM   joined
        GROUP  BY gender)

SELECT gender,
    ( 100 * Round(gender_count /
      SUM(gender_count) over (), 2) ) :: INT distribution
FROM   gender;
```

Let's define a new variable called age_group:
○ **10 < x ≤ 30**
○ **30 < x ≤ 40**
○ **40 < x ≤ 50**
○ **50 < x ≤ 60**
○ **60 <x ≤ 120**
Per each age_group, marital_status and income_category, find out the following values:
a. Churn_rate (in %)

b. Average Total_Relationship_Count
c. Minimum value of Total_Amt_Chng_Q4_Q1
d. Count of customers
Make sure to order the data by age group and the number of customers in descending order.

```sql
WITH base
    AS (SELECT b.clientnum,
            customer_age,
            marital_status,
            income_category,
            b.attrition_flag,
            CASE
              WHEN b.attrition_flag = 'Attrited Customer' THEN 1
              ELSE 0
            END AS churned,
            CASE
              WHEN customer_age > 10
                 AND customer_age <= 30 THEN '10_age_30'
              WHEN customer_age > 30
                 AND customer_age <= 40 THEN '30_age_40'
              WHEN customer_age > 40
                 AND customer_age <= 50 THEN '40_age_50'
              WHEN customer_age > 50
                 AND customer_age <= 60 THEN '50_age_60'
              WHEN customer_age > 60
                 AND customer_age <= 120 THEN '60_age_120'
            END AS age_group,
            c.total_relationship_count,
            c.total_amt_chng_q4_q1
        FROM   basic_client_info a
            INNER JOIN bankchurners b
                 ON a.clientnum = b.clientnum
            INNER JOIN enriched_churn_data c
                 ON b.clientnum = c.clientnum)

SELECT age_group,
```

```
    marital_status,
    income_category,
    Round(100.0 * Sum(churned) /
    (SELECT Count(*)
     FROM   basic_client_info), 4) AS churn_rate
    ,
    Avg(total_relationship_count) avg_Total_Relationship_Count,
    Min(total_amt_chng_q4_q1) min_Total_Amt_Chng_Q4_Q1,
    Count(*)  customers
FROM   base
GROUP  BY
    age_group,
    marital_status,
    income_category
ORDER  BY
    age_group,
    customers DESC
```

Out of the male clients, who hold the "blue" card, how many (in %) hold the income category 40K - 60K?

```
WITH
   joined
   AS (SELECT *
       FROM   bankchurners
       JOIN basic_client_info USING(clientnum)),
   clients_category
   AS (SELECT DISTINCT income_category,
              Count(clientnum)
               over (
                 PARTITION BY income_category) :: DECIMAL
              count_income,
              Count(clientnum) over() total_clients
     FROM   joined
     WHERE  card_category = 'Blue')

SELECT income_category,
```

```
        100 * Round(count_income / total_clients, 2) AS ratio
FROM   clients_category
ORDER  BY ratio
```

Without using group by at all, find the 3rd and 4th highest client IDs (CLIENTNUM's) of Total_Amt_Chng_Q4_Q1?

```
WITH base
   AS (SELECT clientnum,
          total_amt_chng_q4_q1,
          Rank()
           OVER (
             ORDER BY total_amt_chng_q4_q1 DESC) AS
          rank_Total_Amt_Chng_Q4_Q1
       FROM   enriched_churn_data)
SELECT clientnum
FROM   base
WHERE  rank_total_amt_chng_q4_q1 IN ( 3, 4 )
```

We're interested in knowing which client (CLIENTNUM) has the 2nd highest Total_Trans_Amt, Per each Marital_Status. The bank will create a dedicated campaign and target these specific clients moving forward. In this step, help the bank find these clients

```
WITH base
   AS (SELECT a.marital_status,
          a.clientnum,
          Rank()
           OVER (
             partition BY a.marital_status
             ORDER BY b.total_trans_amt DESC) AS
          rank_total_trans_amt_client
       FROM   basic_client_info a
          INNER JOIN enriched_churn_data b using(clientnum))
SELECT marital_status,
```

```sql
        clientnum
FROM   base
WHERE  rank_total_trans_amt_client = 2
```