71- Display list of emails of customers in upper case, lower case and length of email address from table(customer).

```
SELECT
UPPER(email)
,LOWER(email)
,LENGTH(email)
FROM customer
ORDER BY LENGTH(email) DESC
```

72- Display the first name, last name and email (in lower case) of customers where length of their first OR last name is greater than 10 from table(customer).

```
SELECT
LOWER(first_name)
,LOWER(last_name)
,LOWER(email)
FROM customer
WHERE LENGTH(first_name)>10 OR LENGTH(last_name)>10
```

73- Display the 1st two letters of first name, last one letter of last name & third letter of first name from table(customer).

```
SELECT
LEFT(first_name,2)
,RIGHT(last_name,1)
,RIGHT(LEFT(first_name,3),1)
FROM customer
```

74- Customer email address always ends with '.org', write a query that shows two ways to extract the '.' from '.org' from table(customer).

```
SELECT
email
,LEFT(RIGHT(email,4),1)
,RIGHT(LEFT(email,LENGTH(email)-3),1)
FROM customer
```

75- NOTE: Concatenate: ||

76- With the use of concatenate, display the initials, first name and last name of customer from table(customer).

```
SELECT
LEFT(first_name,1)
|| '.'
|| LEFT(last_name,1)
|| '.' as initials
, first_name
, last_name
FROM customer
```

77- Display the anonymized version of emails from table(customer). Email provider will be same for all.
Mahatma.Gandhi@sakilacustomer.org => M***@sakilacustomer.org

```
SELECT
LEFT(email,1)
|| '***'
|| RIGHT(email,19) as anonymized_email
FROM customer
```

78- NOTE: POSITION function gives starting position of first occurrence a character or string present in a string.(1 indexed)

79- Display position of '@' in all email addresses of customers from customer(table).

```
SELECT
POSITION('@' IN email)
,email
FROM customer
```

80- Extract first name from email using position of last name in email address from table(customer). (all email format are: firstName.lastName@emailProvider.org)

```
SELECT
LEFT(first_name,POSITION(last_name IN email)-2) as f_name
,email
FROM customer
ORDER BY f_name
```

81- Disect first name,last name and email provider from email address column from table(customer). (all email format are: firstName.lastName@emailProvider.org)

```
SELECT
LEFT(first_name,POSITION(last_name IN email)-2) as f_name
,RIGHT(LEFT(email,POSITION('@' IN email)-1),LENGTH(last_name)) as l_name
,RIGHT(email,LENGTH(email)-POSITION('@' IN email)) as email_provider
,email
FROM customer
ORDER BY f_name,l_name,email_provider
```

82- Display customer name as "LastName, FirstName" for each customer but you only have email & last_name column to you from table (customer).

```
SELECT
last_name
|| ', '
|| LEFT(email,POSITION(last_name IN email)-2) as full_name
FROM customer
ORDER BY full_name
```

83- NOTE: SUBSTRING(parent_string FROM start_index FOR length_of_substring) (length_of_substring is optional i.e. if not provided substring will be till end of parent_string)

84- Disect first name, last name & email provider of customer using only email(column), SUBSTRING, POSITION from table(column).

```
SELECT
SUBSTRING(email FROM 1 FOR POSITION('.' IN email)-1) as firstName
,SUBSTRING(
   email from (POSITION('.' IN email)+1)
   FOR (POSITION('@' IN email)-POSITION('.' IN email)-1)
) as lastName
,SUBSTRING(email from POSITION('@' IN email)+1) as email_provider
,email
FROM customer
ORDER BY firstName,lastName,email_provider
```

85- Display emails of all clients in an anonymized form from customer(table).
Original: "MARY.SMITH@sakilacustomer.org"

Anonymized: "M***.S***@sakilacustomer.org"

```
SELECT
LEFT(email,1)
|| '***'
|| SUBSTRING(email FROM POSITION('.' IN email) FOR 2)
|| '***'
|| SUBSTRING(email FROM POSITION('@' IN email)) AS anonymized_email
FROM customer
```

86- Display emails of all clients in an anonymized form from customer(table).
Original: "MARY.SMITH@sakilacustomer.org"
Anonymized: "***Y.S***@sakilacustomer.org"

```
SELECT
'***'
|| SUBSTRING(email FROM POSITION('.' IN email)-1 FOR 3)
|| '***'
|| SUBSTRING(email FROM POSITION('@' IN email)) AS anonymized_email
FROM customer
```

87- NOTE: EXTRACT(field FROM YEAR-MONTH-DAY HOUR:MINUTE:SECOND.MILLISECONDS
TIMEZONE/TIMEZONE_HOUR:TIMEZONE_MINUTE).

88- NOTE: EXTRACT function can extract more than this (refer to day 4 slides).

89- Display month wise rental record in descending order from table(rental)

```
SELECT
EXTRACT(MONTH FROM rental_date) as month
,COUNT(rental_id) as rentals
FROM rental
GROUP BY month
ORDER BY rentals DESC
```

90- Display month wise payment sum amount in descending order from table(payment).

```
SELECT
EXTRACT(MONTH FROM payment_date) as month
,SUM(amount) as sum_amount
FROM payment
GROUP BY month
ORDER BY sum_amount DESC
```

91- Display day of week wise payment sum amount in descending order from table(payment).

```
SELECT
EXTRACT(DOW FROM payment_date) as day_of_week
,SUM(amount) as sum_amount
FROM payment
GROUP BY day_of_week
ORDER BY sum_amount DESC
```

92- Display customer and week wise payment sum amount in descending order from table(payment).

```
SELECT
customer_id
,EXTRACT(WEEK FROM payment_date) as week
,SUM(amount) as sum_amount
FROM payment
```

```
GROUP BY week,customer_id
ORDER BY sum_amount DESC
```

93- NOTE: TO_CHAR('date/time/interval', customer_format) converts date to string as custom format.
84- NOTE: There are many custom_formats available (see to_char.pdf/visit postgre website).

85- Display month and year wise payment sum amount in descending order from table(payment).

```
SELECT
TO_CHAR(payment_date, 'MM-YY') as month_year
,SUM(amount) as sum_amount
FROM payment
GROUP BY month_year
ORDER BY sum_amount DESC
```

86- Display Day and Date wise payment sum amount in descending order from table(payment).

```
SELECT
TO_CHAR(payment_date, 'DY, DD/MM/YYYY') as day_date
,SUM(amount) as sum_amount
FROM payment
GROUP BY day_date
ORDER BY sum_amount DESC
```

87- Display month and year wise payment sum amount in descending order from table(payment).

```
SELECT
TO_CHAR(payment_date, 'Mon, YYYY') as month_year
,SUM(amount) as sum_amount
FROM payment
GROUP BY month_year
ORDER BY sum_amount DESC
```

88- Display day and time wise payment sum amount in descending order from table(payment).

```
SELECT
TO_CHAR(payment_date, 'DY, HH:MI') as day_time
,SUM(amount) as sum_amount
FROM payment
GROUP BY day_time
ORDER BY sum_amount DESC
### NOTE: 'MI' is minute 'MM' is month number' ###
```

89-NOTE: Can use CURRENT_DATE & CURRENT_TIMESTAMP to get current date and current timestamp.

90- Display list of all rental durations for which customer with id=35 rented films
from table(rental).

```
SELECT
customer_id
,return_date-rental_date as rental_duration
FROM rental
WHERE customer_id=35
ORDER BY rental_duration DESC
```

91- Display list of avg rental duration for each customer in descending order from table(rental).

```
SELECT
customer_id
,AVG((return_date-rental_date)) as avg_rental_duration
```

```
FROM rental
GROUP BY customer_id
ORDER BY avg_rental_duration DESC
```