Soal Praktikum *Practicum Case* ISYS6028 Database Systems	BINUS MALANG Institute of Creative Technology
Teknik Informatika *Computer Science*	CS- ISYS6028-Var01
Periode Berlaku Mulai Semester Ganjil 2021/2022 ***Valid on*** *Odd Semester Year* 2021/2022	**Revisi 00** *Revision 00*

Learning Outcomes

- Apply database language and SQL Programming language

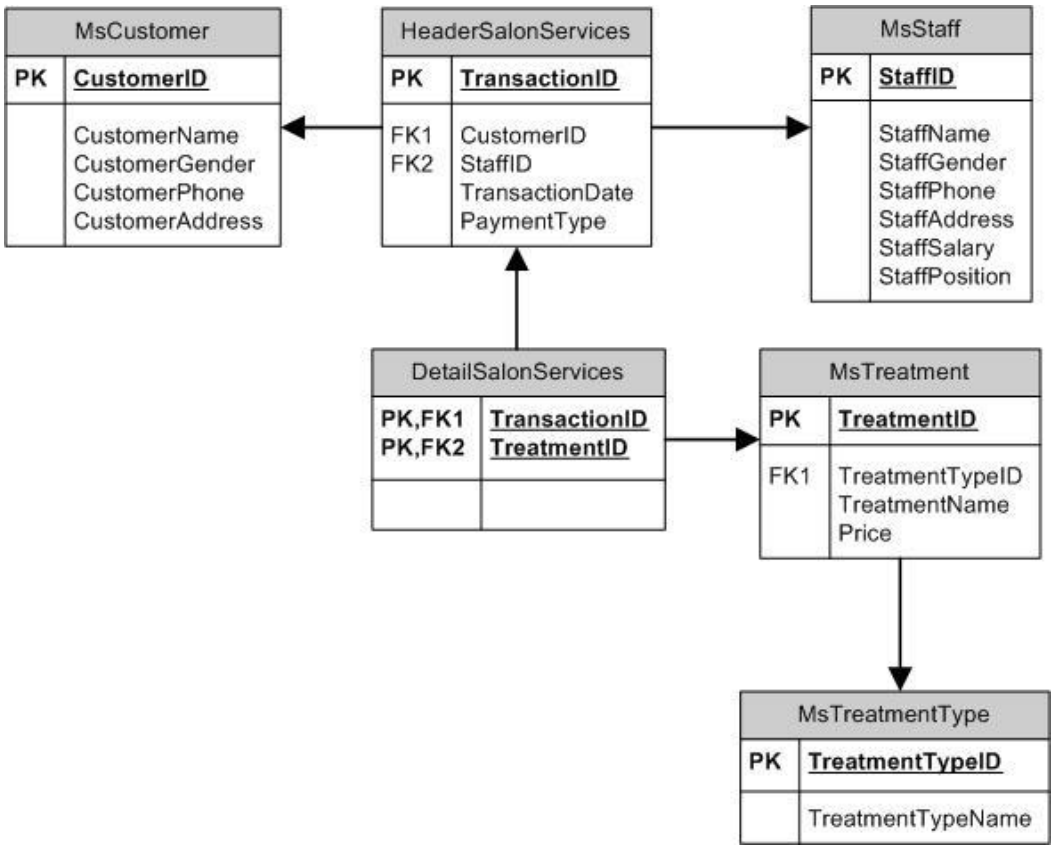
Topic

- Session 04 - SQL – Data Manipulation (2)

Sub Topics

- Grouping
- Aggregate Functions
- Order By
- Compute

Tabel Relasional
Relational Table



Sintaks
Syntax

Select
SELECT { * | field_name [, …] }
FROM table_name [, …]

Distinct
SELECT DISTINCT { * | field_name [, …] }
FROM table_name [, …]

Where
SELECT { * | field_name [, …] }
FROM table_name [, …]
WHERE {condition}

Between
SELECT { * | field_name [, …] }
FROM table_name [, …]
WHERE field_name BETWEEN value1 AND value2

Like
SELECT { * | field_name [, …] }
FROM table_name [, …]
WHERE field_name LIKE {PATTERN}

Aggregate

These are the aggregate functions:
1. **Sum**(field_name) = to sum the total content of the field.
2. **Count**(field_name) = to count the total of rows from the data.
3. **Avg**(field_name)= to count the average from content of the rows.
4. **Max**(field_name)= to count the maximum value from content of the rows.
5. **Min**(field_name)= to count the minimum value from content of the rows.

Additional syntax:
1. **Order by** = to sort the data. The default format is ascending.
2. **Group by** = to group the data that not use the aggregate function.
3. **Having** = to make a condition for aggregate function that we used.

The order of using the syntax:
- group by
- having (to use having, must use group by)
- order by

Soal
Case

1. Display Maximum Price (obtained from the maximum price of all treatment), Minimum Price (obtained from minimum price of all treatment), and Average Price (obtained by rounding the average value of Price in 2 decimal format).
   (**max**, **min**, **cast**, **round**, **avg**)

	Maximum Price	Minimum Price	Average Price
1	5000000.00	50000.00	558077.00

2. Display StaffPosition, Gender (obtained from first character of staff's gender), and Average Salary (obtained by adding 'Rp.' in front of the average of StaffSalary in 2 decimal format).
   (**left**, **cast**, **avg**, **group by**)

	StaffPosition	Gender	Average Salary
1	Stylist	F	Rp. 7000000.00
2	Top Stylist	F	Rp. 12500000.00
3	Stylist	M	Rp. 5000000.00

3. Display TransactionDate (obtained from TransactionDate in 'Mon dd,yyyy' format), and Total Transaction per Day (obtained from the total number of transaction).
   (**convert**, **count**, **group by**)

	TransactionDate	Total Transaction per Day
1	Dec 20, 2012	4
2	Dec 21, 2012	2
3	Dec 22, 2012	3

4. Display CustomerGender (obtained from customer's gender in uppercase format), and Total Transaction (obtained from the total number of transaction).
   (**upper**, **count**, **group by**)

	CustomerGender	Total Transaction
1	FEMALE	4
2	MALE	5

5. Display TreatmentTypeName, and Total Transaction (obtained from the total number of transaction). Then sort the data in descending format based on the total of transaction.
   (**count**, **group by**, **order by**)

	TreatmentTypeName	Total Transaction
1	Hair Treatment	13
2	Message / Spa	5
3	Body Treatment	1

6. Display Date (obtained from TransactionDate in ‘dd mon yyyy’ format), Revenue per Day (obtained by adding ‘Rp. ’ in front of the total of price) for every transaction which Revenue Per Day is between 1000000 and 5000000.
(**convert**, **cast**, **sum**, **group by**, **having**)

	Date	Revenue per Day
1	20 Dec 2012	Rp. 4350000.00
2	22 Dec 2012	Rp. 2500000.00

7. Display ID (obtained by replacing ‘TT0’ in TreatmentTypeID with ‘Treatment Type’), TreatmentTypeName, and Total Treatment per Type (obtained from the total number of treatment and ended with ‘ Treatment ’) for treatment type that consists of more than 5 treatments. Then sort the data in descending format based on Total Treatment per Type.
(**replace**, **cast**, **count**, **group by**, **having**, **order by**)

	ID	TreatmentTypeName	Total Treatment per Type
1	Treatment Type 01	Hair Treatment	10 Treatment
2	Treatment Type 02	Message / Spa	6 Treatment

8. Display StaffName (obtained from first character of staff’s name until character before space), TransactionID, and Total Treatment per Transaction (obtained from the total number of treatment).
(**left**, **charindex**, **count**, **group by**)

	StaffName	TransactionID	Total Treatment per Transaction
1	Indra	TR001	2
2	Ryan	TR002	2
3	Livia	TR003	2
4	Ryan	TR004	4
5	Livia	TR005	1
6	Ryan	TR006	2
7	Dian	TR007	2
8	Mellisa	TR008	2
9	Indra	TR009	2

9. Display TransactionDate, CustomerName, TreatmentName, and Price for every transaction which happened on ‘Thursday’ and handled by Staff whose name contains the word ‘Ryan’. Then order the data based on TransactionDate and CustomerName in ascending format.
(**datename**, **weekday**, **like**, **order by**)

	TransactionDate	CustomerName	TreatmentName	Price
1	2012-12-20	Brando Kartawijaya	Cutting by Stylist	150000.00
2	2012-12-20	Brando Kartawijaya	Highlight	320000.00
3	2012-12-20	Brando Kartawijaya	Reflexy	250000.00
4	2012-12-20	Brando Kartawijaya	Back Theraphy Massage	300000.00
5	2012-12-20	Emalia Dewi	Rebonding Treatment	1100000.00
6	2012-12-20	Emalia Dewi	Reflexy	250000.00

10. Display TransactionDate, CustomerName, and TotalPrice (obtained from the total amount of price) for every transaction that happened after 20th day. Then order the data based on TransactionDate in ascending format.
    (**sum**, **day**, **group by**, **order by**)

	TransactionDate	CustomerName	TotalPrice
1	2012-12-21	Andy Putra	300000.00
2	2012-12-21	Franky	570000.00
3	2012-12-22	Andy Putra	800000.00
4	2012-12-22	Elysia Chen	770000.00
5	2012-12-22	Emalia Dewi	930000.00