DBMS LAB-1

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1. Create tables for - Student(student_id, first_name, last_name, dept, Date_of_birth, gender, religion), Employee, Product, Customer, and Account. Identify relevant attributes for each table and make sure each table has at least four columns. Ensure each table has a _ID column e.g. Employee should have EMPLOYEE_ID column, Student should have STUDENT_ID column etc.

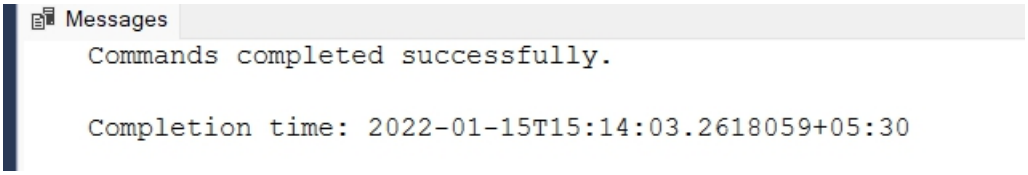
```
create table Student
( Student_id int,
First_Name char(10),
Last_Name char(10),
Dept char(10),
DOB date,
Gender char(10),
Religion char(10) );

create table Employee
( Employee_id int,
Name char(10),
Dept char(10),
Joining_Date date,
Sex char(10),
Salary money );

create table Product
( Product_id int,
Name char(10),
Manufacturing_Date date,
MRP money);

create table Customer
( Customer_id int,
Name char(10),
Age int,
Loyalty_Points float);

create table Account
( Account_id real,
Holder_Name char(20),
Bank_Name char(20),
Branch char(10) );
```



2. Describe each table.

STUDENT TABLE

```
sp_columns Student;
```

152 %

Results | Messages

	TABLE_QUALIFIER	TABLE_OWNER	TABLE_NAME	COLUMN_NAME	DATA_TYPE	TYPE_NAME	PRECISION	LENGTH
1	master	dbo	Student	Student_id	4	int	10	4
2	master	dbo	Student	First_Name	1	char	10	10
3	master	dbo	Student	Last_Name	1	char	10	10
4	master	dbo	Student	Dept	1	char	10	10
5	master	dbo	Student	DOB	-9	date	10	20
6	master	dbo	Student	Gender	1	char	10	10
7	master	dbo	Student	Religion	1	char	10	10

EMPLOYEE TABLE

```
sp_columns Employee;
```

150 %

Results | Messages

	TABLE_QUALIFIER	TABLE_OWNER	TABLE_NAME	COLUMN_NAME	DATA_TYPE	TYPE_NAME	PRECISION	LENGTH
1	master	dbo	Employee	Employee_id	4	int	10	4
2	master	dbo	Employee	Name	1	char	10	10
3	master	dbo	Employee	Dept	1	char	10	10
4	master	dbo	Employee	Joining_Date	-9	date	10	20
5	master	dbo	Employee	Sex	1	char	10	10
6	master	dbo	Employee	Salary	3	money	19	21

PRODUCT TABLE

```
sp_columns Product;
```

150 %

Results | Messages

	TABLE_QUALIFIER	TABLE_OWNER	TABLE_NAME	COLUMN_NAME	DATA_TYPE	TYPE_NAME	PRECISION	LENGTH
1	master	dbo	Product	Product_id	4	int	10	4
2	master	dbo	Product	Name	1	char	10	10
3	master	dbo	Product	Manufacturing_Date	-9	date	10	20
4	master	dbo	Product	MRP	3	money	19	21

CUSTOMER TABLE

```
sp_columns Customer;
```

150 %

Results | Messages

	TABLE_QUALIFIER	TABLE_OWNER	TABLE_NAME	COLUMN_NAME	DATA_TYPE	TYPE_NAME	PRECISION	LENGTH
1	master	dbo	Customer	Customer_id	4	int	10	4
2	master	dbo	Customer	Name	1	char	10	10
3	master	dbo	Customer	Age	4	int	10	4
4	master	dbo	Customer	Loyalty_Points	6	float	15	8

ACCOUNT TABLE

```
sp_columns Account;
```

150 %

Results | Messages

	TABLE_QUALIFIER	TABLE_OWNER	TABLE_NAME	COLUMN_NAME	DATA_TYPE	TYPE_NAME	PRECISION	LENGTH
1	master	dbo	Account	Account_id	7	real	7	4
2	master	dbo	Account	Holder_Name	1	char	20	20
3	master	dbo	Account	Bank_Name	1	char	20	20
4	master	dbo	Account	Branch	1	char	10	10

3.Insert at least 5 distinct rows to each table

STUDENT TABLE

```
insert into Student
values ('291','Anish','Anmol','CSE','2000-12-05','Male','Hindu'),
('283','Aditya','Meena','CSE','2001-08-30','Male','Hindu'),
('314','Monjima','Majumdar','CSE','2002-02-26','Female','Hindu'),
('328','Sandeep','Sahoo','CSE','2002-07-17','Male','Hindu'),
('309','Devansh','Srivastava','CSE','2001-10-26','Male','Hindu');
```

150 %

Results Messages

```
(5 rows affected)
```

EMPLOYEE TABLE

```
insert into Employee
values ('291','Anish Anmol','IT','2020-12-05','Male','200000'),
('283','Aditya Meena','ELEC','2021-08-30','Male','190000'),
('314','Monjima Majumdar','IT','2020-02-26','Female','195000'),
('328','Sandeep Sahoo','MECH','2021-07-17','Male','500000'),
('309','Devansh Srivastava','CIVIL','2021-10-26','Male','400000');
```

150 %

Messages

```
(5 rows affected)
```

CUSTOMER TABLE

```
insert into Customer
values ('121','Monjima','19','87.5'),
('124','Aditya','20','77.5'),
('151','Anish','21','85'),
('886','Devansh','20','39.5'),
('101','Sandeep','21','99.5');
```

150 %

Messages

```
(5 rows affected)
```

PRODUCT TABLE

```
insert into Product
values ('001','HC Verma','2020-11-01','500'),
('002','SL Arora','2019-01-01','400'),
('003','Sumita Arora','2021-09-01','700'),
('004','RD Sharma','2021-01-01','800'),
('005','RS Agarwal','2021-09-01','750');
```

150 %

Messages

```
(5 rows affected)
```

ACCOUNT TABLE

```
insert into Account
values ('2005291','Anish Anmol','SBI','Bbsr'),
('2005328','Sandeep Sahoo','BOI','Cuttack'),
('2005314','Monjima Majumdar','HDFC','Kolkata'),
('2005309','Devansh Srivastava','IDIB','Lucknow'),
('2005283','Aditya Meena','BOB','Rohtak');
```

150 %

Messages

```
(5 rows affected)
```

4. Fetch all data from the respective tables.

```
select * from Student;
select * from Employee;
select * from Product;
select * from Customer;
select * from Account;
```

70 %

Results | Messages

	Student_id	First_Name	Last_Name	Dept	DOB	Gender	Religion
1	291	Anish	Anmol	CSE	2000-12-05	Male	Hindu
2	283	Aditya	Meena	CSE	2001-08-30	Male	Hindu
3	314	Monjima	Majumdar	CSE	2002-02-26	Female	Hindu
4	328	Sandeep	Sahoo	CSE	2002-07-17	Male	Hindu
5	309	Devansh	Srivastava	CSE	2001-10-26	Male	Hindu

	Employee_id	Name	Dept	Joining_Date	Sex	Salary
1	291	Anish Anmol	IT	2020-12-05	Male	200000.00
2	283	Aditya Meena	ELEC	2021-08-30	Male	190000.00
3	314	Monjima Majumdar	IT	2020-02-26	Female	195000.00
4	328	Sandeep Sahoo	MECH	2021-07-17	Male	500000.00
5	309	Devansh Srivastava	CIVIL	2021-10-26	Male	400000.00

	Product_id	Name	Manufacturing_Date	MRP
1	1	HC Verma	2020-11-01	500.00
2	2	SL Arora	2019-01-01	400.00
3	3	Sumita Arora	2021-09-01	700.00
4	4	RD Sharma	2021-01-01	800.00
5	5	RS Agarwal	2021-09-01	750.00

	Customer_id	Name	Age	Loyalty_Points
1	121	Monjima	19	87.5
2	124	Aditya	20	77.5
3	151	Anish	21	85
4	886	Devansh	20	39.5
5	101	Sandeep	21	99.5

	Account_id	Holder_Name	Bank_Name	Branch
1	2005291	Anish Anmol	SBI	Bbsr
2	2005328	Sandeep Sahoo	BOI	Cuttack
3	2005314	Monjima Maju...	HDFC	Kolkata
4	2005309	Devansh Sriva...	IDIB	Luck...
5	2005283	Aditya Meena	BOB	Rohtak

5.Fetch Emplyee ids and name from the Employee Table.

```
select Employee_id,Name from Employee;
```

150 %

Results

```
Employee_id Name
----------- --------------------
291         Anish Anmol
283         Aditya Meena
314         Monjima Majumdar
328         Sandeep Sahoo
309         Devansh Srivastava

(5 rows affected)
```

6. Create table YOUTH (f_name, l_name, sex, DOB) from the Student table.

```
create table Youth
(F_Name char(10),
L_Name char(10),
Sex char(10),
DOB date);

insert into Youth (F_Name,L_Name,Sex,DOB)
select First_Name,Last_Name,Gender,DOB
from Student;
```

150 %

Results

```
(5 rows affected)
```

7. Delete all data from the customer table

```
delete from Customer;
select * from Customer;
```

150 %

Results

```
(5 rows affected)
Customer_id Name                 Age         Loyalty_Points
----------- -------------------- ----------- ----------------------

(0 rows affected)
```

8. Delete the Account table.

```
drop table Account;
```

100 %

Messages

```
Commands completed successfully.
```

```
drop table Account;
```

150 %

Results

```
Msg 3701, Level 11, State 5, Line 1
Cannot drop the table 'Account', because it does not exist or you do not have permission.
```

9. Fetch the f_name and DOB from YOUTH table

```
select F_Name,DOB from Youth;
```

150 %

Results

F_Name	DOB
Anish	2000-12-05
Aditya	2001-08-30
Monjima	2002-02-26
Sandeep	2002-07-17
Devansh	2001-10-26

(5 rows affected)

10. Insert a new record into the Youth table. And keep NULL value in the l_name column.

```
insert into Youth
values ('Shishir','','Male','2002-06-13');
```

150 %

Results

(1 row affected)

F_Name	L_Name	Sex	DOB
Anish	Anmol	Male	2000-12-05
Aditya	Meena	Male	2001-08-30
Monjima	Majumdar	Female	2002-02-26
Sandeep	Sahoo	Male	2002-07-17
Devansh	Srivastava	Male	2001-10-26
Shishir		Male	2002-06-13

11. Insert a new record into the Employee table. And keep NULL value in the employee_id column.

```
insert into Employee
values ('','Shishir Saurav','ELEC','2019-06-30','Male','300000');
```

150 %

Results

Employee_id	Name	Dept	Joining_Date	Sex	Salary
291	Anish Anmol	IT	2020-12-05	Male	200000.00
283	Aditya Meena	ELEC	2021-08-30	Male	190000.00
314	Monjima Majumdar	IT	2020-02-26	Female	195000.00
328	Sandeep Sahoo	MECH	2021-07-17	Male	500000.00
309	Devansh Srivastava	CIVIL	2021-10-26	Male	400000.00
0	Shishir Saurav	ELEC	2019-06-30	Male	300000.00

(6 rows affected)

12.Change the name of the employee table to workers.

```
sp_rename 'Employee','Workers';
```

150 %

Results

Caution: Changing any part of an object name could break scripts and stored procedures.

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```
select * from Workers;
```

150 %

Results

Employee_id	Name	Dept	Joining_Date	Sex	Salary
291	Anish Anmol	IT	2020-12-05	Male	200000.00
283	Aditya Meena	ELEC	2021-08-30	Male	190000.00
314	Monjima Majumdar	IT	2020-02-26	Female	195000.00
328	Sandeep Sahoo	MECH	2021-07-17	Male	500000.00
309	Devansh Srivastava	CIVIL	2021-10-26	Male	400000.00
0	Shishir Saurav	ELEC	2019-06-30	Male	300000.00

(6 rows affected)

13. Increase the size of the dept field in the student table by 10.

```
alter table Student
alter column Dept char(20);
```

150 %

Results

```
Commands completed successfully.
```

previous size was 10

14. Add a column ph_no in the student table.

```
alter table Student
add Phone_No float;
```

150 %

Results

```
Student_id  First_Name Last_Name  Dept                DOB         Gender     Religion   Phone_No
----------- ---------- ---------- ------------------- ----------- ---------- ---------- ------------
291         Anish      Anmol      CSE                 2000-12-05 Male       Hindu      NULL
283         Aditya     Meena      CSE                 2001-08-30 Male       Hindu      NULL
314         Monjima    Majumdar   CSE                 2002-02-26 Female     Hindu      NULL
328         Sandeep    Sahoo      CSE                 2002-07-17 Male       Hindu      NULL
309         Devansh    Srivastava CSE                 2001-10-26 Male       Hindu      NULL

(5 rows affected)
```

15.Drop the religion attribute from the student table

```
alter table Student
drop column Religion;
```

150 %

Results

```
Student_id  First_Name Last_Name  Dept                DOB         Gender     Phone_No
----------- ---------- ---------- ------------------- ----------- ---------- ------------
291         Anish      Anmol      CSE                 2000-12-05 Male       NULL
283         Aditya     Meena      CSE                 2001-08-30 Male       NULL
314         Monjima    Majumdar   CSE                 2002-02-26 Female     NULL
328         Sandeep    Sahoo      CSE                 2002-07-17 Male       NULL
309         Devansh    Srivastava CSE                 2001-10-26 Male       NULL

(5 rows affected)
```

16. Rename the student_id field to roll_no in the student table.

```
sp_rename 'Student.Student_id','Roll_No';

select * from Student;
```

150 %

Results

```
Caution: Changing any part of an object name could break scripts and stored procedures.
Roll_No     First_Name Last_Name  Dept                DOB        Gender     Phone_No
----------- ---------- ---------- ------------------- ---------- ---------- -------------
291         Anish      Anmol      CSE                 2000-12-05 Male       NULL
283         Aditya     Meena      CSE                 2001-08-30 Male       NULL
314         Monjima    Majumdar   CSE                 2002-02-26 Female     NULL
328         Sandeep    Sahoo      CSE                 2002-07-17 Male       NULL
309         Devansh    Srivastava CSE                 2001-10-26 Male       NULL

(5 rows affected)
```

17. Change the datatype and size of the product id column in the product table.

```
alter table Product
alter column Product_id float(50);
```

150 %

Messages

```
Commands completed successfully.
```

```
sp_columns Product;
```

150 %

Results | Messages

	TABLE_QUALIFIER	TABLE_OWNER	TABLE_NAME	COLUMN_NAME	DATA_TYPE	TYPE_NAME	PRECISION	LENGTH
1	master	dbo	Product	Product_id	6	float	15	8
2	master	dbo	Product	Name	1	char	20	20
3	master	dbo	Product	Manufacturing_Date	-9	date	10	20
4	master	dbo	Product	MRP	3	money	19	21