

DBMS Experiment 4

Name: Kshitij Chandrakar
SAP: 500124827
Batch: 49
Date: 4 September 2024

Question 1

Creating the Table

```
CREATE TABLE SALES (  
  SaleID number,  
  SaleAmount number,  
  SaleDate date  
)
```

Results

Explain

Describe

Saved SQL

History

Object Type

TABLE

Object

SALES

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
SALES	SALEID	NUMBER	22	-	-	-	✓	-	-

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Results

Explain

Describe

Saved SQL

History

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
SALES	SALEID	NUMBER	22	-	-	-	✓	-	-
	SALEAMOUNT	NUMBER	22	-	-	-	✓	-	-
	SALEDATE	DATE	7				✓		

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Inserting Values

```
INSERT ALL  
  into Sales values (110, 4234, '12/12/2024')  
  into Sales values (221, 3211, '12/14/2024')  
  into Sales values (353, 1232, '12/15/2024')  
  into Sales values (353, 2222, '12/13/2024')  
  into Sales values (3523, 5152, '12/11/2024')  
select * from dual
```

Results			Explain	Describe	Saved SQL	History
SALEID			SALEAMOUNT			SALEDATE
110			4234			12/12/2024
221			3211			12/14/2024

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Rounding Values to the Nearest 100

```
Select SaleID, Round(SaleAmount, -2) as Rounded, SaleDate from Sales
```

Results			Explain	Describe	Saved SQL	History
SALEID			ROUNDED			SALEDATE
110			4200			12/12/2024
221			3200			12/14/2024

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Modulus of Each Sale divided By 100

```
select SaleID, Mod(SaleAmount, 100), SaleDate from Sales
```

Results			Explain	Describe	Saved SQL	History
SALEID			MOD(SALEAMOUNT,100)			SALEDATE
110			34			12/12/2024
221			11			12/14/2024

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Question 2

Creating Tables

```
CREATE TABLE Employees (
    EmployeeID NUMBER PRIMARY KEY,
    Name VARCHAR2(100),
    HireDate DATE
);
```

Results

Explain

Describe

Saved SQL

History

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEES	EMPLOYEEID	NUMBER	22	-	-	1	-	-	-
	NAME	VARCHAR2	100	-	-	-	✓	-	-
	HIREDATE	DATE	7	-	-	-	✓	-	-

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Inserting Values

```
INSERT
  INTO Employees VALUES (1, 'Ei', '2023-01-15'),
  INTO Employees VALUES (2, 'Zhongli', '2024-03-20'),
  INTO Employees VALUES (3, 'Barbatos', '2022-11-08'),
  INTO Employees VALUES (4, 'Nahida', '2023-07-12'),
  INTO Employees VALUES (5, 'Doritos', '2024-05-05');
select * from dual
```

Showing the Values

```
SELECT EmployeeID, Name, HireDate, TRUNC(SYSDATE - HireDate) AS
DaysSinceHire
FROM Employees;
```

Question 3

Creating the Tables

```
CREATE TABLE Departments (
  DepartmentID number primary key,
  DepartmentName varchar2(100),
)
CREATE TABLE Employees (
  EmployeeID number,
  DepartmentID number,
  Salary number,
  foreign key (DepartmentID) references Departments(DepartmentID)
)
```

Results

Explain

Describe

Saved SQL

History


Object Type


TABLE


Object

DEPARTMENTS

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
DEPARTMENTS	DEPARTMENTID	NUMBER	22	-	-	1	-	-	-
	DEPARTMENTNAME	VARCHAR2	100	-	-	-	✓	-	-

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Results


Explain


Describe


Saved SQL

History

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEES	EMPLOYEEID	NUMBER	22	-	-	-	✓	-	-
	DEPARTMENTID	NUMBER	22	-	-	-	✓	-	-
	SALARY	NUMBER	22	-	-	-	✓	-	-

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Inserting Values

```
insert all
  into Departments Values (1, 'A')
  into Departments Values (2, 'B')
  into Departments Values (3, 'C')
  into Departments Values (4, 'D')
select * from dual
```

Results


Explain


Describe


Saved SQL

History

DEPARTMENTID	DEPARTMENTNAME
1	A
2	B
3	C

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```
insert all
  into employees Values (1, 1, 10000)
  into employees Values (2, 4, 10000)
  into employees Values (3, 1, 20000)
  into employees Values (4, 2, 30000)
  into employees Values (5, 3, 50000)
select * from dual
```

Results


Explain


Describe


Saved SQL

History

EMPLOYEEID	DEPARTMENTID	SALARY
1	1	10000
2	4	10000
3	1	20000

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Total, Minimum, Maximum and Average Salary

```
select SUM(Salary) as Total, AVG(Salary) as Average, Min(Salary) as Lowest,
Max(Salary) as Highest from Employees
```

TOTAL	AVERAGE	LOWEST	HIGHEST
120000	24000	10000	50000

1 rows returned in 0.01 seconds [Download](#)

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Question 4

Creating the Table

```
CREATE TABLE Grades (  
    StudentID NUMBER,  
    StudentName VARCHAR2(100),  
    Grade NUMBER  
);
```

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
GRADES	STUDENTID	NUMBER	22	-	-	-	✓	-	-
	STUDENTNAME	VARCHAR2	100	-	-	-	✓	-	-
	GRADE	NUMBER	22	-	-	-	✓	-	-

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Inserting Values

```
INSERT ALL  
    INTO Grades VALUES (1, 'Cyno', 80);  
    INTO Grades VALUES (2, 'Jean', 60);  
    INTO Grades VALUES (3, 'Klee', 95);  
    INTO Grades VALUES (4, 'Nilou', 75);  
    INTO Grades VALUES (5, 'Benett', 85);  
select * from dual
```

Results			Explain	Describe	Saved SQL	History
STUDENTID		STUDENTNAME		GRADE		
1		Kazuha		80		
2		Paimon		60		
3		Lisa		95		

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Selecting the Relevant Values

```

SELECT
  StudentID,
  StudentName,
  Grade,
  CASE
    WHEN Grade < 70 THEN 'Low'
    WHEN Grade >= 70 AND Grade < 90 THEN 'Medium'
    ELSE 'High'
  END AS GradeCategory
FROM Grades;

```

Results				Explain	Describe	Saved SQL	History
STUDENTID	STUDENTNAME	GRADE	GRADECATEGORY				
1	Kazuha	80	Medium				
2	Paimon	60	Low				
3	Lisa	95	High				

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Question 5

Creating Tables

```

create table Courses (
  CourseID number primary key,
  CourseName varchar(100),
  Credits number
)

create table Enrollments (
  EnrollmentID number primary key,
  StudentID number,
  CourseID number,
  foreign key (CourseID) references Courses(CourseID)
)

```

Results

Explain

Describe

Saved SQL

History


Object Type


TABLE


Object

COURSES

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
COURSES	COURSEID	NUMBER	22	-	-	1	-	-	-
	COURSENAME	VARCHAR2	100	-	-	-	✓	-	-

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Results


Explain


Describe


Saved SQL

History

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
ENROLLMENTS	ENROLLMENTID	NUMBER	22	-	-	1	-	-	-
	STUDENTID	NUMBER	22	-	-	-	✓	-	-
	COURSEID	NUMBER	22	-	-	-	✓	-	-

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Inserting Values

```

insert all
  into Courses values (1, 'Literature', 4)
  into Courses values (2, 'Physics', 3)
  into Courses values (3, 'Chemistry', 4)
  into Courses values (4, 'Computer Science', 2)
  into Courses values (5, 'Discrete Mathematics', 5)
select * from dual

--INSERTING THE RECORDS IN ENROLMENTS
insert all
  into Enrollments values (1, 101, 1)
  into Enrollments values (2, 102, 3)
  into Enrollments values (3, 103, 2)
  into Enrollments values (4, 104, 5)
  into Enrollments values (5, 105, 4)
select * from dual

```

Results	Explain	Describe	Saved SQL	History
COURSEID		COURSENAME		CREDITS
1	Literature		4	
2	Physics		3	
3	Chemistry		4	

Results	Explain	Describe	Saved SQL	History
ENROLLMENTID		STUDENTID		COURSEID
1	101		1	
2	102		3	
3	103		2	

Credits More Than 3

```
select StudentID from Enrollments
where CourseID in (
    select CourseID
    from Courses
    where Credits > 3
)
```

Results Explain Describe Saved SQL History

STUDENTID
101
102
104

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Question 6

Creating the Table

```
create table Customers (
    CustomerID number,
    CustomerName Varchar2(100),
    Email Varchar2(100)
)
```

Results Explain Describe Saved SQL History

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
CUSTOMERS	CUSTOMERID	NUMBER	22	-	-	-	✓	-	-
	CUSTOMERNAME	VARCHAR2	100	-	-	-	✓	-	-
	EMAIL	VARCHAR2	100	-	-	-	✓	-	-

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Inserting The Values

```
insert all
into Customers values (001, 'Naman', 'raghvendra@gmail.com')
into Customers values (002, 'Joshi', 'oof@email.com')
into Customers values (003, 'Dixit', 'lalalaanshu@fmail.com')
into Customers values (004, 'Nidhi', 'rarw@gmail.com')
into Customers values (005, 'Aanchal', 'Aanchal@wmail.com')
select * from dual
```


Results	Explain	Describe	Saved SQL	History
CUSTOMERID		CUSTOMERNAME		EMAIL
2		Joshi		oof@email.com
3		Dixit		lalalaanshu@gmail.com
4		Nidhi		rarw@gmail.com

Showing the Values where Email is a Gmail.com Domain

```
select CustomerName
from Customers
where Email like '%@gmail.com'
```

Results	Explain	Describe	Saved SQL	History
CUSTOMERNAME				
Naman				
Nidhi				

2 rows returned in 0.02 seconds [Download](#)

Question 7

Creating the Tables

```
create table orders
(
    orderid number,
    orderAmount number,
    orderdate date
);
```

Results


Explain


Describe


Saved SQL

History

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
ORDERS	ORDERID	NUMBER	22	-	-	-	✓	-	-
	ORDERAMOUNT	NUMBER	22	-	-	-	✓	-	-
	ORDERDATE	DATE	7	-	-	-	✓	-	-

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Inserting Values

```
insert all
into orders values(1,8,to_date('01/8/2024'))
```

```

into orders values(2,6,to_date('02/8/2023'))
into orders values(3,9,to_date('12/1/2023'))
into orders values(4,89,to_date('1/2/2024'))
into orders values(5,44,to_date('2/1/2024'))
select * from dual

```

Results Explain Describe Saved SQL History		
ORDERID	ORDERAMOUNT	ORDERDATE
1	8	01/08/2024
2	6	02/08/2023
3	9	12/01/2023

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Selecting the Orders which are above average

```

SELECT orderID, orderAmount, orderDate
FROM orders
WHERE orderAmount > (SELECT AVG(orderAmount) FROM orders);

```

Results Explain Describe Saved SQL History		
ORDERID	ORDERAMOUNT	ORDERDATE
4	89	01/02/2024
5	44	02/01/2024

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Question 8

Creating The Tables

```

create table membership
(
  memeberid number,
  memebername varchar2(100),
  joinDate date
);

```

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Inserting the Values

```

SQL
insert all
  into membership values(1, 'Ragav',to_date('01/8/2024'))
  into membership values(2, 'Pranjal',to_date('02/8/2023'))
  into membership values(3, 'Deepu',to_date('12/1/2023'))
  into membership values(4, 'Rishi',to_date('1/2/2024'))
  into membership values(5, 'jon',to_date('2/1/2024'))

```

```
select * from dual
select * from membership
```

Results			Explain	Describe	Saved SQL	History
MEMEBERID			MEMEBERNAME		JOINDATE	
1	Vander		01/08/2024			
2	Silco		02/08/2023			
3	Jinx		12/01/2023			

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Showing the Values

```
select memeberid, memebername, joinDate
from membership
where joinDate >= ADD_MONTHS(SYSDATE, -12);
```

Results			Explain	Describe	Saved SQL	History
MEMEBERID			MEMEBERNAME		JOINDATE	
1	Vander		01/08/2024			
3	Jinx		12/01/2023			
4	Vi		01/02/2024			

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Question 9

Creating the Table

```
create table SalesData (
  SaleID Number,
  ProductID Number,
  SaleAmount Number
)
```

Results


Explain


Describe


Saved SQL

History

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
SALESDATA	SALEID	NUMBER	22	-	-	-	✓	-	-
	PRODUCTID	NUMBER	22	-	-	-	✓	-	-
	SALEAMOUNT	NUMBER	22	-	-	-	✓	-	-

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Inserting The Records

```

insert all
into SalesData values (1, 011, 500)
into SalesData values (2, 022, 600)
into SalesData values (3, 033, 700)
into SalesData values (4, 044, 800)
into SalesData values (5, 055, 1000)
select * from dual

```

Results	Explain	Describe	Saved SQL	History
SALEID		PRODUCTID	SALEAMOUNT	
1		11	500	
2		22	600	
3		33	700	

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Showing

```

select ProductID
from SalesData
group by ProductID
having sum(SaleAmount) > (select avg(TotalSales)
    from (
        select ProductID, sum(SaleAmount) as TotalSales
        from SalesData
        group by ProductID
    )
)

```

Results	Explain	Describe	Saved SQL	History
PRODUCTID				
44				
55				

2 rows returned in 0.04 seconds Download

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Question 10

Creating The Table


```


create table employeeperformance (
    employeeid number primary key,
    employeename varchar2(100),


```

```
performancescore number  
);
```

Results	Explain	Describe	Saved SQL	History					
Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEEPERFORMANCE	EMPLOYEEID	NUMBER	22	-	-	1	-	-	-
	EMPLOYEEENAME	VARCHAR2	100	-	-	-	✓	-	-
	PERFORMANCESCORE	NUMBER	22	-	-	-	✓	-	-

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Inserting Values

```
insert all  
  INTO EmployeePerformance VALUES (1, 'Kazuha', 80)  
  INTO EmployeePerformance VALUES (2, 'Paimon', 60)  
  INTO EmployeePerformance VALUES (3, 'Lisa', 95)  
  INTO EmployeePerformance VALUES (4, 'Barbara', 75)  
  INTO EmployeePerformance VALUES (5, 'Benett', 85)  
select * from dual
```

Results


Explain


Describe


Saved SQL

History

EMPLOYEEID	EMPLOYEENAME	PERFORMANCESCORE
1	Kazuha	80
2	Paimon	60
3	Lisa	95

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Selecting the Relevant Values

```
select employeeid, employeeename, performancescore  
from employeeperformance  
where performancescore > (  
  select avg(performancescore)  
  from employeeperformance  
);
```

Results


Explain


Describe


Saved SQL

History

EMPLOYEEID	EMPLOYEEENAME	PERFORMANCESCORE
1	Kazuha	80
3	Lisa	95
5	Benett	85

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