(a)Database Project Management system-

1.

```
create DATABASE Project_Management_system;

Create table
CREATE TABLE Employee(EMPLOYEE_ID INT(10) PRIMARY KEY,EMPLOYEE_NAME
VARCHAR(25) NOT NULL,EMAIL_ID VARCHAR(15) NOT NULL,MONTHLY_LOGS INT(10)
NOT NULL)

Inserting Data
INSERT INTO Employee
VALUES(1,'Ram_Sharma','r.sharma@gmail.com',20),

(2,'Roy_Mishra','r.mishra@gmail.com',15),

(3,'Vani_Kapoor','v.kapoor@gmail.com',10),

(4,'Neerja_Khan','n.khan@gmail.com',12),

(5,'Simran_Rai','s.rai@gmail.com',20);
```

2.

```
Create table
CREATE TABLE Project(PROJECT_ID INT(25) PRIMARY KEY,PROJECT_NAME
VARCHAR(50) NOT NULL,PROJECT_ETA INT(50) NOT NULL,PROJECT_COORDINATOR
INT(25) NOT NULL, PROJECT_DATE DATE NOT NULL,FOREIGN
KEY(PROJECT_COORDINATOR) REFERENCES employee(EMPLOYEE_ID))
Inserting data
insert into project
VALUES(101,'project1',100,2,'2017-05-13'),
(102,'project3',500,5,'2017-02-02'),
(103,'project2',140,2,'2017-01-01'),
(104,'project4',250,4,'2017-06-20')
```

3.

```
Create table
CREATE TABLE Poject_Members(MEMBER_ID INT(10) PRIMARY KEY,PROJECT_ID INT
NOT NULL,FOREIGN KEY(PROJECT_ID) REFERENCES
Project(PROJECT_ID),EMPLOYEE_ID INT(10) NOT NULL ,FOREIGN KEY(EMPLOYEE_ID)
REFERENCES Employee());

Inserting Data
INSERT into Project_Members
values(1,101,4),(2,102,1),(3,103,5),(4,101,1),(5,103,3),(6,101,3),(7,102,4
);
```

4.

```
Creating Table
CREATE TABLE project_forecast(FORECAST_ID INT(10) PRIMARY KEY,MEMBER_ID
INT(10) NOT NULL,FORECAST_HOURS INT(10) NOT NULL,FORECAST_MONDAY DATE NOT
NULL,FOREIGN KEY(MEMBER_ID) REFERENCES project_members(MEMBER_ID))
```

Inserting Database
```
INSERT into project_forecast values(1,2,10,'2017-02-06'),(2,2,40,'2017-02-
20'),(3,1,25,'2017-05-15'),(4,7,15.5,'2017-02-13')
```

5.
Creating Table
```
CREATE TABLE employee_work_log(LOG_ID INT(10) PRIMARY KEY,MEMBER_ID
INT(10),LOGGED_HOURS INT(10),LOG_DATE DATE,FOREIGN KEY(MEMBER_ID)
REFERENCES project_members(MEMBER_ID))
```
Inserting Database
```
INSERT into employee_work_log values(1,2,5.5,'2017-02-06'),(2,7,7,'2017-
02-13'),(3,2,4,'2017-05-10'),(4,7,5,'2017-02-14'),(5,1,8,'2017-05-
16'),(6,7,3,'2017-02-15'),(7,1,8,'2017-05-17'),(8,3,2,'2017-01-31')
```

3.Question Query:
```
SELECT
project_name,
project_coordinator,
IFNULL(forecast_hours, 0) AS forecast_hours,
IFNULL(worked_hours, 0) AS Worked_Hours
FROM
 (((SELECT
project.project_id,
project.project_name,
employee.Employee_name AS Project_Coordinator
 FROM
 project,employee
 WHERE
 project.project_coordinator = employee.Employee_id
 ORDER BY project.project_name) t1
 LEFT JOIN (SELECT project_id,SUM(forecast_hours) AS forecast_hours
 FROM
 project_forecast, project_members
 WHERE
 project_forecast.member_id = project_members.member_id
 GROUP BY project_id) t2 ON t1.project_id = t2.project_id)
 LEFT JOIN (SELECT
project_members.project_id,
SUM(employee_work_log.logged_hours) AS worked_hours
 FROM
 project_members, employee_work_log
 WHERE
 project_members.member_id = employee_work_log.member_id
 GROUP BY project_members.project_id) t3 ON t1.project_id =
t3.project_id);
```

4.Question Query:
```
SELECT Project.PROJECT_NAME,Employee.EMPLOYEE_NAME FROM Employee,Project
,project_members WHERE project.PROJECT_COORDINATOR=employee.EMPLOYEE_ID
AND project.PROJECT_ID=project_members.PROJECT_ID
ORDER BY project.PROJECT_NAME,employee.EMPLOYEE_NAME
```

+ Options

PROJECT_NAME	EMPLOYEE_NAME
project1	Roy_Mishra
project1	Roy_Mishra
project1	Roy_Mishra
project2	Roy_Mishra
project2	Roy_Mishra
project3	Simran_Rai
project3	Simran_Rai

5.Question Query

```
SELECT project.PROJECT_NAME, SUM(project_forecast.FORECAST_HOURS) AS
`Total Forecast Hours`, SUM(employee_work_log.LOGGED_HOURS) AS `Total
Logged Hours` FROM project LEFT JOIN project_members ON
project.PROJECT_ID=project_members.PROJECT_ID LEFT JOIN project_forecast
ON project_members.MEMBER_ID=project_forecast.MEMBER_ID LEFT JOIN
employee_work_log ON project_members.MEMBER_ID =
employee_work_log.MEMBER_ID GROUP BY (project.PROJECT_NAME)
```

+ Options

PROJECT_NAME	Total Forecast Hours	Total Logged Hours
project1	50	16
project2	*NULL*	2
project3	148	35
project4	*NULL*	*NULL*

6.Questions Query:

```
SELECT project_name,Employee_name from employee JOIN (
SELECT project.project_name,a.employee_id FROM project JOIN (
SELECT  project_id, employee_id from project_members WHERE not employee_id
IN(
SELECT DISTINCT project_members.employee_id FROM
project_members,project_forecast WHERE project_members.member_id =
project_forecast.member_id) )a on project.project_id=a.project_id)b ON
employee.Employee_id=b.employee_id
```

+ Options

project_name	Employee_name
project2	Simran_Rai
project2	Vani_Kapoor
project1	Vani_Kapoor

7.Questin Query:

```
SELECT employee.Employee_name ,t5.project_name,t5.performance from
employee INNER JOIN
(SELECT project.project_name ,t4.employee_id,t4.performance from project
INNER JOIN
(SELECT project_members.Employee_id,project_members.project_id
,Performance FROM project_members INNER JOIN
((SELECT t1.member_id, ((t1.Total_work/t2.forecast_hours)*100) as
Performance
FROM
(SELECT project_members.member_id, SUM(employee_work_log.logged_hours) as
Total_work from project_members,employee_work_log WHERE
project_members.member_id=employee_work_log.member_id GROUP BY
project_members.member_id) t1
INNER JOIN
((SELECT project_forecast.member_id ,SUM(forecast_hours) as forecast_hours
from project_forecast,project_members WHERE project_forecast.member_id=
project_members.member_id GROUP BY member_id) t2) on
t1.member_id=t2.member_id)) t3 ON project_members.member_id=t3.member_id)
t4 on project.project_id=t4.project_id)t5 on
employee.Employee_id=t5.employee_id
```

+ Options

Employee_name	project_name	Performance
Neerja_Khan	project1	64.0000
Ram_Sharma	project3	20.0000
Neerja_Khan	project3	93.7500

(b)Data Warehouse

```
CREATE DATABASE Warehouse;


1.
Create Table
CREATE TABLE Sales_Order ( Order_no INT AUTO_INCREMENT PRIMARY KEY,
Total_order_qty INT(10), Customer_number VARCHAR(20),FOREIGN KEY
(Customer_number) REFERENCES customer(Customer_number), Entry_system_date
DATE, Request_ship_date DATE, Comments VARCHAR(50), Shipping_address
VARCHAR(100));

Inserting data
insert into sales_order VALUES(1,15,'C-101','2015-03-12','2015-03-20','-
','71_Pilgrim_Avenue_ Chevy_Chase,USA_20815')

2.
Create Table
CREATE TABLE sales_detail (sales_order int(10),FOREIGN KEY (sales_order)
REFERENCES sales_order(order_no),order_line_number int(10) PRIMARY KEY,
order_qty int(10) ,product_code varchar(10) , product_description
varchar(50), discount_value decimal(10,1) ,comments varchar (50));


Inserting data
INSERT INTO sales_details VALUES
(1,1,4,'p-508','Granier shampoo 10.3OZ',1.2,'-'),
(1,2,6,'p-511','Baby care oil 4 OZ',0.5,'-'),
(1,3,2,'p-201','Baby food nestle 500gm',0.3,'-'),
(1,4,3,'p-401','Loreal hair oil 12OZ',2,'-')


3.
Create Table
CREATE TABLE Dispatched (Order_no INT NOT NULL,Order_line_number
INT,FOREIGN KEY(Order_line_number) REFERENCES
sales_detail(Order_line_number),Order_qty INT, Qty_approved INT,
Unit_price FLOAT(10),Net_sales_value FLOAT(10),Active_flag
VARCHAR(50),Dispatched_date DATE);


Inserting Data
insert into dispatched values  (1,1,4,3,7,21,'T','2015/3/18'),
(1,2,6,2,9,18,'T','2015/3/18'), (1,3,2,2,20,40,'T','2015/3/17'),
(1,4,3,3,10,30,'T','2015/3/15')



4.
Create Table
```

```
CREATE TABLE customer (Customer_number VARCHAR(50) PRIMARY KEY,
Customer_name VARCHAR(50), Telephone VARCHAR(50), Email VARCHAR(50),
Street VARCHAR(50), Zipcode INT, City VARCHAR(50), Country VARCHAR(50))

Inserting Data
INSERT into customer values('c-101','clair
doe','+4100006589','clair101@yahoo.com','71,pilgrim avenue','20815','chevy
chase','usa'),('c-102','Walter
White','+4100006582','walt@yahoo.com','71,Albequirky','20814','navada','us
a')
```

```
Question no.3
SELECT Order_no, Customer.Customer_name, Total_Orderd_Qty, total_sales,
DATE_FORMAT(dispatched_date, '%d-%m-%Y') AS dispatched_date FROM customer
INNER JOIN (
SELECT dispatched.order_no, sales_order.customer_number, SUM(order_qty) As
total_orderd_qty, SUM(Net_sales_value) As total_sales,
Max(dispatched_date) As dispatched_date
FROM sales_order JOIN dispatched ON
sales_order.order_no=dispatched.order_no GROUP BY order_no) As A ON
A.customer_number=customer.customer_number
```

+ Options

Order_no	Customer_name	Total_Orderd_Qty	total_sales	dispatched_date
1	clair doe	15	109	18-03-2015

```
Question no.4
SELECT Product_code, Product_description, Unit_price, SUM(Qty_approved)
FROM dispatched
JOIN sales_detail ON
dispatched.Order_line_number=sales_detail.Order_line_number
GROUP by product_code, product_description, unit_price
```

+ Options

Product_code	Product_description	Unit_price	SUM(Qty_approved)
p-201	Baby food nestle 500gm	20	2
p-401	Loreal hair oil 12OZ	10	3
p-508	Granier shampoo 10.3OZ	7	3
p-511	Baby care oil 4 OZ	9	2

```
Question no.5
SELECT product_code,product_description,unit_price,(dispatched.Order_qty-
qty_approved) AS Quantity_Cancled,((dispatched.Order_qty - qty_approved) *
unit_price) AS Net_value
FROM dispatched INNER JOIN sales_detail ON sales_detail.order_line_number
= dispatched.order_line_number GROUP BY product_code ORDER BY Net_value
DESC
```

Question no.6

```
SELECT
customer.customer_name,
CONCAT(customer.street,
customer.zipcode,
customer.city,
customer.country) AS address,
sales_order.total_order_qty,
SUM(dispatched.qty_approved) AS Quantityreceived,
SUM(dispatched.net_sales_value) AS Total_Sales
FROM
 customer
 LEFT JOIN
 sales_order ON customer.customer_number = sales_order.customer_number
 INNER JOIN
 dispatched ON sales_order.order_no = dispatched.order_no
GROUP BY dispatched.order_no
```

+ Options

customer_name	address	total_order_qty	Quantityreceived	Total_Sales
clair doe	71,pilgrim avenue20815chevy chaseusa	15	10	109

Question no.7

```
SELECT Product_code,Product_description,SUM(Net_sales_value) AS
Net_Sales_of_product,(SUM(Qty_approved) * (Unit_price - Discount_value))
AS Gross_sale_of_product FROM sales_detail INNER JOIN dispatched ON
sales_detail.Order_qty = dispatched.Order_qty GROUP BY
Product_code,Product_description,Unit_price,Discount_value LIMIT 5
```

+ Options

Product_code	Product_description	Net_Sales_of_product	Gross_sale_of_product
p-201	Baby food nestle 500gm	40	39.4
p-401	Loreal hair oil 12OZ	30	24
p-508	Granier shampoo 10.3OZ	21	17.4
p-511	Baby care oil 4 OZ	18	17

Question no.8

```
SELECT sales_detail.Product_code ,sales_detail.Product_description
,MONTH(dispatched.Dispatched_date) as MONTH,
YEAR(Dispatched.Dispatched_date) as YEAR, SUM(dispatched.Net_sales_value)
as total_SALES from dispatched INNER JOIN sales_detail on
dispatched.Order_line_number=sales_detail.Order_line_number GROUP BY
product_code
```