**STUDENT INFORMATION SYSTEM**

Task 1

1.create database sisdb;

use sisdb;

2.create table students(student\_id int primary key,first\_name varchar(50),last\_name varchar(50),date\_of\_birth date,email varchar(100),phone\_number varchar(15));

create table courses(course\_id int primary key,course\_name varchar(100),credits int,teacher\_id int,foreign key(teacher\_id)references teacher(teacher\_id));

create table enrollments(enrollment\_id int primary key,student\_id int,course\_id int,enrollment\_date date,foreign key(student\_id) references students(student\_id),foreign key(course\_id) references courses(course\_id));

create table teacher(teacher\_id int primary key,first\_name varchar(50),last\_name varchar(50),email varchar(100));

create table payments(payment\_id int primary key,student\_id int,amount decimal(10,2),payment\_date date,foreign key(student\_id) references students(student\_id));

4&5  
insert into students(student\_id,first\_name,last\_name,date\_of\_birth,email,phone\_number) values

(1,'rahul','sharma','2000-05-10','rahul@email.com','9876543210'),

(2,'anjali','verma','2001-08-15','anjali@email.com','8765432109'),

(3,'vikram','singh','1999-12-20','vikram@email.com','7654321098'),

(4,'priya','yadav','2002-03-25','priya@email.com','6543210987'),

(5,'amit','kumar','2000-07-30','amit@email.com','5432109876'),

(6,'sneha','joshi','2001-11-05','sneha@email.com','4321098765'),

(7,'rohit','patil','1998-09-12','rohit@email.com','3210987654'),

(8,'deepika','gupta','2002-02-18','deepika@email.com','2109876543'),

(9,'arjun','rathore','1999-06-22','arjun@email.com','1098765432'),

(10,'neha','shah','2000-04-08','neha@email.com','9876543211');

insert into teacher(teacher\_id,first\_name,last\_name,email) values

(1,'suresh','mehta','suresh@email.com'),

(2,'geeta','kapoor','geeta@email.com'),

(3,'ravi','desai','ravi@email.com'),

(4,'sunita','iyer','sunita@email.com'),

(5,'manoj','pillai','manoj@email.com')

(6,'Reha','Shin','reha@gmail.com'),

(7,'Sohit','Sankar','sohit@gmail.com'),

(8,'Deepika','Kumari','deepika@gmail.com'),

(9,'Sarjun','Rish','sarjun@gmail.com'),

(10,'Neata','Mari','neata@gmail.com');

insert into courses(course\_id,course\_name,credits,teacher\_id) values

(101,'mathematics',4,1),

(102,'science',3,2),

(103,'english',2,3),

(104,'history',3,4),

(105,'physics',4,5)

(106,'Computer Science',4,6),

(107,'CSS',5,7),

(108,'HTML',2,8),

(109,'Java',3,9),

(110,'Python',4,10);

insert into enrollments(enrollment\_id,student\_id,course\_id,enrollment\_date) values

(1,1,101,'2024-01-10'),

(2,2,102,'2024-01-12'),

(3,3,103,'2024-01-15'),

(4,4,104,'2024-01-18'),

(5,5,105,'2024-01-20'),

(6,6,101,'2024-02-01'),

(7,7,102,'2024-02-05'),

(8,8,103,'2024-02-10'),

(9,9,104,'2024-02-15'),

(10,10,105,'2024-02-20');

insert into payments(payment\_id,student\_id,amount,payment\_date) values

(1,1,5000.00,'2024-01-11'),

(2,2,4800.00,'2024-01-13'),

(3,3,4500.00,'2024-01-16'),

(4,4,4700.00,'2024-01-19'),

(5,5,4900.00,'2024-01-21'),

(6,6,5000.00,'2024-02-02'),

(7,7,4800.00,'2024-02-06'),

(8,8,4500.00,'2024-02-11'),

(9,9,4700.00,'2024-02-16'),

(10,10,4900.00,'2024-02-21');

**Task 2**  
1.insert into students (first\_name,last\_name,date\_of\_birth,email,phone\_number)

values('john','doe','1995-08-15','john.doe@example.com','1234567890');

2.insert into enrollments(student\_id,course\_id,enrollment\_date) values(1,101,curdate());

3.update teacher set email='aris@gmail.com' where teacher\_id=5;

4.delete from enrollments where student\_id=1 and course\_id=101;

5.update courses set teacher\_id=5 where course\_id=101;

6.delete from enrollments where student\_id=1; delete from students where student\_id=1;

7. update payments set amount=5000 where payment\_id=10;

**Task 3**

1.select s.first\_name,sum(p.amount) as total\_payments from students s join payments p on s.student\_id=p.student\_id where s.student\_id=1;

2. select c.course\_name,count(e.student\_id) from courses c left join enrollments e on c.course\_id=e.course\_id group by c.course\_name;

3.select s.first\_name from students s left join enrollments e on s.student\_id=e.student\_id where e.student\_id is null ;

4.select s.first\_name,s.last\_name,c.course\_name from students s join enrollments e on s.student\_id=e.student\_id join courses c on e.course\_id=c.course\_id ;

5.select t.first\_name,c.course\_name from teacher t join courses c on t.teacher\_id=c.teacher\_id;

6.select s.first\_name,e.enrollment\_date from students s join enrollments e on s.student\_id=e.student\_id join courses c on e.course\_id=c.course\_id where c.course\_id=102 ;

7.select s.first\_name from students s left join payments p on s.student\_id=p.student\_id where p.amount is NULL;

8.select c.course\_name from courses c left join enrollments e on c.course\_id=e.course\_id where e.course\_id is null;

9.select s.first\_name,count(e.course\_id) from student s join enrollment e on s.student\_id=e.student\_id group by s.student\_id having count(e.course\_id)>1;

10.select t.first\_name,t.last\_name from teacher t left join courses c on t.teacher\_id=c.teacher\_id where c.course\_id is null;

**task 4**

1. select avg(student\_count) from (select count(student\_id)student\_count from enrollments group by course\_id);

2.select student\_id,amount from payment where amount=(select max(amount) from payment);

3.select course\_id from enrollment group by course\_id having count(student\_id)=(select max(cnt) from (select count(student\_id) cnt from enrollment group by course\_id) x);

4.select teacher\_id,sum(amount) from teacher t,course c,enrollment e,payment p where t.teacher\_id=c.teacher\_id and c.course\_id=e.course\_id and e.student\_id=p.student\_id group by teacher\_id;

5.select student\_id from enrollment group by student\_id having count(distinct course\_id)=(select count(\*) from course);

6. select teacher\_id from teacher where teacher\_id not in (select teacher\_id from course);

7. select avg(year(curdate())-year(date\_of\_birth)) from student;

8.select course\_id from course where course\_id not in (select course\_id from enrollment);

9.select student\_id,course\_id,sum(amount) from enrollment e,payment p where e.student\_id=p.student\_id group by student\_id,course\_id;

10.select student\_id from payment group by student\_id having count(payment\_id)>1;

11.select student\_id,sum(amount) from payment group by student\_id;

12. select course\_name,count(student\_id) from course c left join enrollment e on c.course\_id=e.course\_id group by course\_name;

13. select student\_id,avg(amount) from payment group by student\_id;