COLLEGE MANAGEMENT SYSTEM

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***ABSTRACT***

This project is based on how colleges manage their system. CMS provides smooth administrative process to manage the student related information and their admission process along with other related stuffs like book library process.

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Batch id : DS T – 326/11 to 1

College Management System

*Project for SQL Module*

*DESCRIPTION:*

Following database schema is designed to function as a backend storage database to manage College database.

The activities which are performed by college to maintain daily activities of students related information efficiently and easily. Some of the benefits of using this system are:

1. Updating Student details whenever there is new admission.
2. Maintaining usage of library by each and every student.
3. Its easy to find out which student belongs to which class and branch.
4. Keeping the record of whole college system within database is faster as compared to manual activities. RDBMS provides many ways to analyse available data.

Database name:

* College

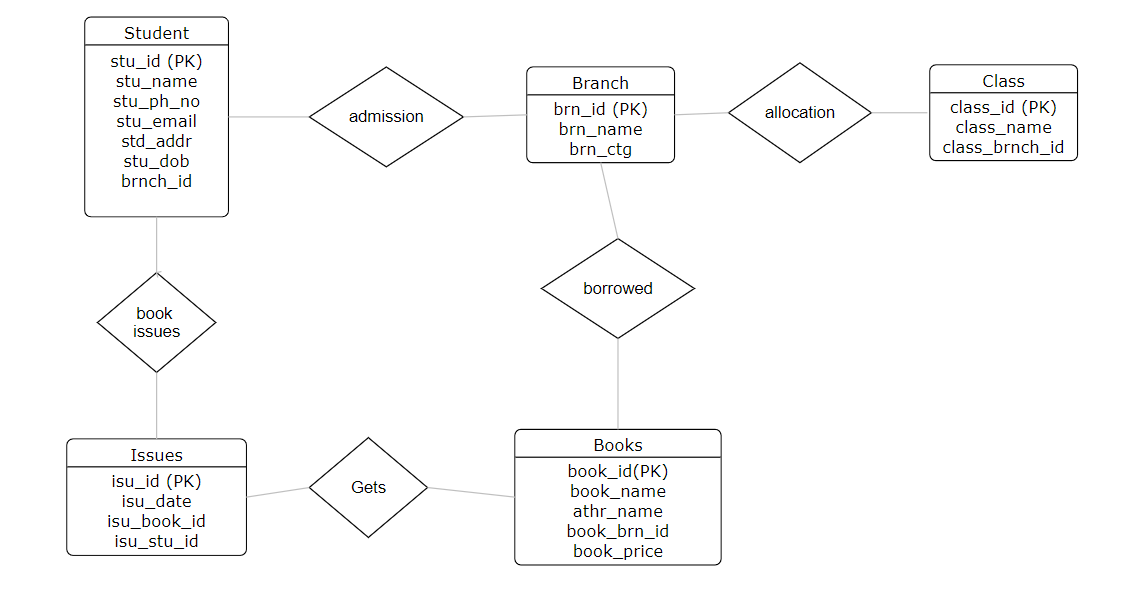
This database contains 5 tables:

1. Student
2. Class
3. Branch
4. Books
5. Issues

How these tables/entities are related to each other is shown on next page through ER diagram,

i.e. Entity Relationship Diagram.

*ER-Diagram (Entity Relation – Diagram) for College Management System:*



CREATING DATABASE:

Create database college;

Use college;

TABLE CREATION & INSERTION COMMANDS:

CREATE TABLE student(

stu\_id INT PRIMARY KEY,

stu\_name VARCHAR(30),

stu\_ph\_no INT ,

stu\_email VARCHAR(30) ,

stu\_addr VARCHAR(50),

stu\_dob DATE,

brnch\_id int

);

CREATE TABLE books (

book\_id INT PRIMARY KEY ,

book\_name VARCHAR(30),

athr\_name VARCHAR(30),

book\_brn\_id INT,

book\_price INT

);

CREATE TABLE branch (

brn\_id INT PRIMARY KEY,

brn\_name VARCHAR(20),

brn\_ctg VARCHAR(20)

);

CREATE TABLE issues (

isu\_id INT UNIQUE,

isu\_date DATE ,

isu\_book\_id INT ,

isu\_stu\_id INT

);

CREATE TABLE class (

class\_id int UNIQUE,

class\_name varchar(20),

class\_brnch\_id int

);

***Inserting values in Student table:***

INSERT INTO student (`stu\_id`,`stu\_name`,`stu\_ph\_no`,`stu\_email`,`std\_addr`,`stu\_dob`,`brnch\_id`) VALUES (911,'Aniket Patil',7394658,'aniket6748@gmail.com','Thane Manpada','1994-09-03',1002);

INSERT INTO student (`stu\_id`,`stu\_name`,`stu\_ph\_no`,`stu\_email`,`std\_addr`,`stu\_dob`,`brnch\_id`) VALUES (912,'Adarsh Singh',5936827,'adarsh674@gmail.com','Thane Wadavali','1993-05-08',1002);

INSERT INTO student (`stu\_id`,`stu\_name`,`stu\_ph\_no`,`stu\_email`,`std\_addr`,`stu\_dob`,`brnch\_id`) VALUES (913,'Sanika Lokhande',9564836,'sanika3841@gmail.com','Mumbai Sakinaka','1998-07-13',1003);

INSERT INTO student (`stu\_id`,`stu\_name`,`stu\_ph\_no`,`stu\_email`,`std\_addr`,`stu\_dob`,`brnch\_id`) VALUES (914,'Aditi Chaugule',8375663,'aditi43@gmail.com','Bhiwandi Bhare','2000-05-07',1001);

INSERT INTO student (`stu\_id`,`stu\_name`,`stu\_ph\_no`,`stu\_email`,`std\_addr`,`stu\_dob`,`brnch\_id`) VALUES (915,'Vanita Kharat',6492657,'vanita45@gmail.com','Nashik Shirdi','1998-02-03',1002);

***Inserting values in Books table:***

INSERT INTO books (`book\_id`,`book\_name`,`athr\_name`,`book\_brn\_id`,`book\_price`) VALUES (11,'Basics Of Science','George.c',1001,455);

INSERT INTO books (`book\_id`,`book\_name`,`athr\_name`,`book\_brn\_id`,`book\_price`) VALUES (12,'Basics Of Maths','Hadhway Rome',1002,657);

INSERT INTO books (`book\_id`,`book\_name`,`athr\_name`,`book\_brn\_id`,`book\_price`) VALUES (13,'Algebra 101','Katty Holmes',1002,345);

INSERT INTO books (`book\_id`,`book\_name`,`athr\_name`,`book\_brn\_id`,`book\_price`) VALUES (14,'Stars And Moons','Marty & Josh',1001,999);

INSERT INTO books (`book\_id`,`book\_name`,`athr\_name`,`book\_brn\_id`,`book\_price`) VALUES (15,'C++ All In One','Jason.y',1003,867);

INSERT INTO books (`book\_id`,`book\_name`,`athr\_name`,`book\_brn\_id`,`book\_price`) VALUES (16,'Python For DS','Jose.Port',1003,567);

INSERT INTO books (`book\_id`,`book\_name`,`athr\_name`,`book\_brn\_id`,`book\_price`) VALUES (17,'Java OOPS','James Gosling',1002,450);

***Inserting values in Branch table:***

INSERT INTO branch (`brn\_id`,`brn\_name`,`brn\_ctg`) VALUES (1001,'Finance','Commerce');

INSERT INTO branch (`brn\_id`,`brn\_name`,`brn\_ctg`) VALUES (1002,'IT','Engineering');

INSERT INTO branch (`brn\_id`,`brn\_name`,`brn\_ctg`) VALUES (1003,'Computer','Engineering');

***Inserting values in Issues table:***

INSERT INTO issues (`isu\_id`,`isu\_date`,`isu\_book\_id`,`isu\_stu\_id`) VALUES (5,'2021-09-26',11,919);

INSERT INTO issues (`isu\_id`,`isu\_date`,`isu\_book\_id`,`isu\_stu\_id`) VALUES (1,'2021-11-13',12,913);

INSERT INTO issues (`isu\_id`,`isu\_date`,`isu\_book\_id`,`isu\_stu\_id`) VALUES (2,'2021-12-04',16,917);

INSERT INTO issues (`isu\_id`,`isu\_date`,`isu\_book\_id`,`isu\_stu\_id`) VALUES (3,'2022-01-18',13,911);

INSERT INTO issues (`isu\_id`,`isu\_date`,`isu\_book\_id`,`isu\_stu\_id`) VALUES (4,'2022-01-02',15,915);

***Inserting values in Class table:***

INSERT INTO class (`class\_id`,`class\_name`,`class\_brnch\_id`) VALUES (100,'Class1',1001);

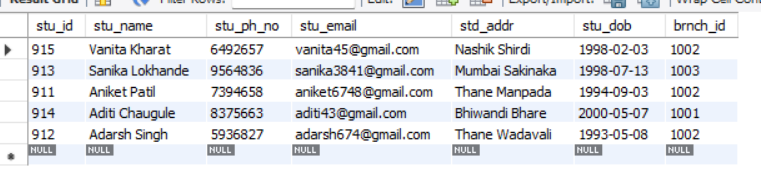
INSERT INTO class (`class\_id`,`class\_name`,`class\_brnch\_id`) VALUES (101,'Class2',1003);

INSERT INTO class (`class\_id`,`class\_name`,`class\_brnch\_id`) VALUES (102,'Class3',1002);

**SQL QUERIES:**

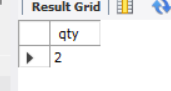
1. fetch all the students by descending order of the name.

* select \* from student order by stu\_name desc;



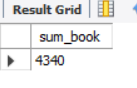
1. How many branches are present for engineering stream.

* select count(1) AS qty from branch where brn\_ctg = 'Engineering';



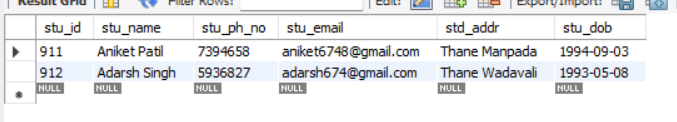
1. total price of all books in college.

* select sum(book\_price) sum\_book from books;



1. Write a query to get student details who stays in Thane

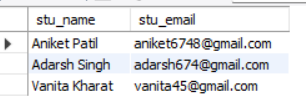
* select stu\_id,stu\_name,stu\_ph\_no,stu\_email,std\_addr,stu\_dob from student where std\_addr like 'Thane%';



**SUB QUERIES:**

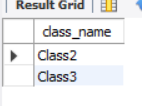
1. fetch name and email ID of a student who belongs to branch IT.

* select stu\_name, stu\_email from student where brnch\_id = (select brn\_id from branch where brn\_name = 'IT');



1. Write a query to get class name whoes branch category is 'Engineering'

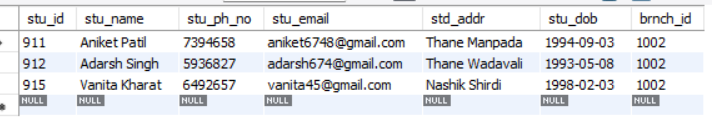
* select class\_name from class where class\_brnch\_id in (select brn\_id from branch where brn\_ctg = 'Engineering');



1. Write a query to get Students seating in 'Class 3'

* select \* from student where brnch\_id in

(select brn\_id from branch where brn\_id = (select class\_brnch\_id from class where class\_name = 'Class3' ));



1. write a query to find the highest price of book

* select book\_price , book\_name from books

where book\_price = (select max(book\_price) highest\_price from books);

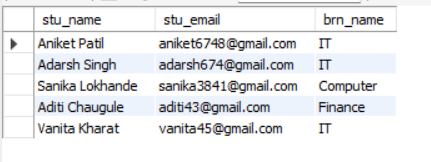


**JOINS :**

1. fetch name, email ID and branch name of all students

* select s.stu\_name,s.stu\_email,b.brn\_name from student s join branch b

on s.brnch\_id = b.brn\_id;



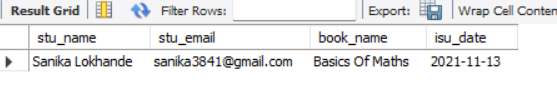
1. find out the student name, email id, book name and date of book issued who issued the book of "Basics Of Science"

* select s.stu\_name,s.stu\_email, b.book\_name, i.isu\_date

from student s join issues i on s.stu\_id = i.isu\_stu\_id

join books b on i.isu\_book\_id = b.book\_id

where b.book\_name = 'Basics Of Maths';

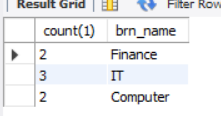


1. find out total books available for each branch

* select count(1), br.brn\_name from branch br

join books b on b.book\_brn\_id = br.brn\_id

group by br.brn\_name;

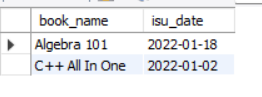


1. Name of books issued after year 2021

* select b.book\_name,i.isu\_date from books b

Join issues i on b.book\_id = i.isu\_book\_id

where year(isu\_date) > '2021';



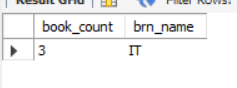
1. Find out the branch name which has more than 2 books also show the respective book count

* select count(1) as book\_count, br.brn\_name from branch br

join books b on b.book\_brn\_id = br.brn\_id

group by br.brn\_name

having book\_count > 2;

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