

# SCHOOL MANAGEMENT SYSTEM

**Language:** Python, SQL

**Framework:** Flask

**Database:** MySQL

**Software:** Visual Studio Code, DBeaver, MySQL Workbench 8.0

## #DDL statements

```
use midterm;
```

```
#Student table
```

```
create table STUDENT(  
    Name varchar (100),  
    Student_number int (100) primary key,  
    Class int (100),  
    Major varchar (100)  
);
```

```
#Course table
```

```
create table COURSE(  
    Course_name varchar (100),  
    Course_number varchar (100) primary key,  
    Credit_hours int (100),  
    Department varchar (100)  
);
```

```
#Section table
```

```
create table SECTION(  
    Section_idenfifier int (100) primary key,  
    Course_number varchar (100),  
    Semester varchar (100),  
    Year int (100),  
    Instructor varchar (100),  
    Foreign key (Course_number) references course (Course_number)  
);
```

```
#Grade report table
```

```
create table GRADE_REPORT(  
    Student_number int (100),  
    Section_idenfifier int (100),  
    Grade varchar (100),  
    primary key (Student_number, Section_idenfifier),  
    foreign key (Student_number) references STUDENT(Student_number),  
    foreign key (Section_idenfifier) references SECTION(Section_idenfifier)  
);
```

```
#Prerequisite Table
create table PREREQUISITE(
    Course_number varchar (100),
    Prerequisite_number varchar (100) primary key,
    Foreign key (Course_number) references course (Course_number),
    Foreign key (Prerequisite_number) references course (Course_number)
);
```

## #DML statements

```
insert into STUDENT(Name, Student_number, Class, Major)
values
    ('Smith','17','1','CS'),
    ('Brown','8','2','CS');
```

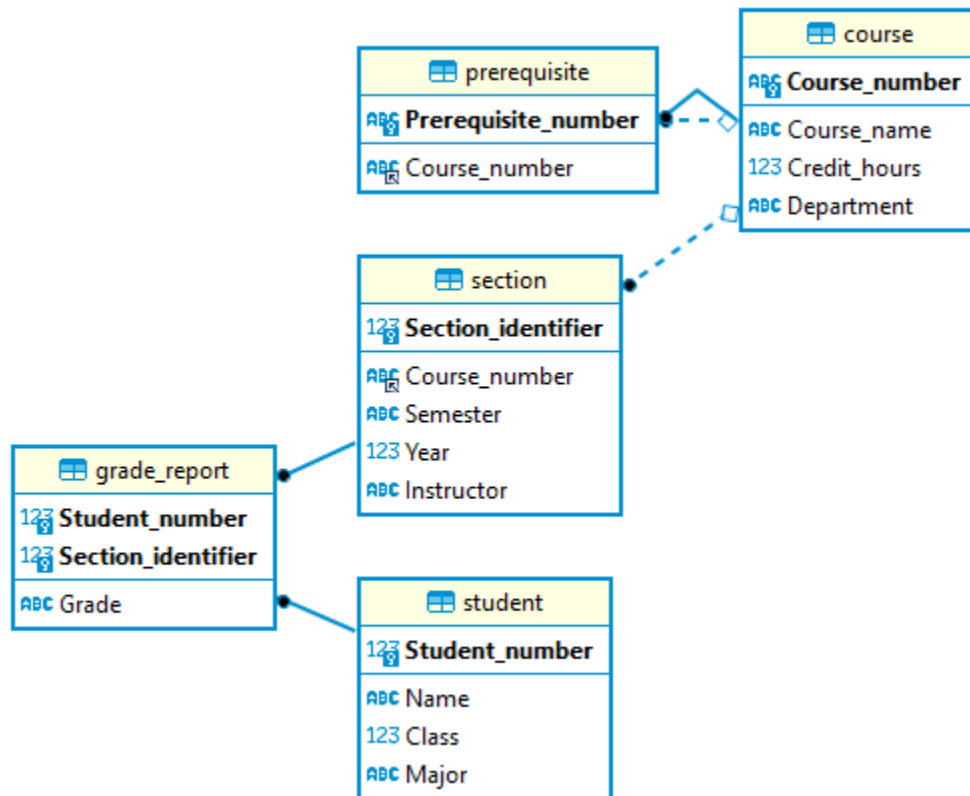
```
insert into COURSE(Course_name, Course_number, Credit_hours, Department)
values
    ('Intro to Computer Science','CS1310','4','CS'),
    ('Data Structures','CS3320','4','CS'),
    ('Discrete Mathematics','MATH2410','3','MATH'),
    ('Database','CS3380','3','CS');
```

```
insert into SECTION(Section_identifier, Course_number, Semester, Year, Instructor)
values
    ('85', 'MATH2410', 'Fall', '07', 'King'),
    ('92', 'CS1310', 'Fall', '07', 'Anderson'),
    ('102', 'CS3320', 'Spring', '08', 'Knuth'),
    ('112', 'MATH2410', 'Fall', '08', 'Chang'),
    ('119', 'CS1310', 'Fall', '08', 'Anderson'),
    ('135', 'CS3380', 'Fall', '08', 'Stone');
```

```
insert into GRADE_REPORT(Student_number, Section_identifier, Grade)
values
    ('17', '112', 'B'),
    ('17', '119', 'C'),
    ('8', '85', 'A'),
    ('8', '92', 'A'),
    ('8', '102', 'B'),
    ('8', '135', 'A');
```

```
insert into PREREQUISITE(Course_number, Prerequisite_number)
values
    ('CS3380', 'CS3320'),
    ('CS3380', 'MATH2410'),
    ('CS3320', 'CS1310');
```

## #ER Diagram



# SCHOOL MANAGEMENT SYSTEM

## Student

Name	Student Number	Class	Major	Actions
Brown	8	2	CS	<a href="#">View</a>
Smith	17	1	CS	<a href="#">View</a>

## Course

Course Name	Course Number	Credit Hours	Department	Actions
Intro to Computer Science	CS1310	4	CS	<a href="#">View</a>
Data Structures	CS3320	4	CS	<a href="#">View</a>
Database	CS3380	3	CS	<a href="#">View</a>
Discrete Mathematics	MATH2410	3	MATH	<a href="#">View</a>

## Section

Section Identifier	Course Number	Semester	Year	Instructor	Actions
85	MATH2410	Fall	7	King	<a href="#">Edit</a>
92	CS1310	Fall	7	Anderson	<a href="#">Edit</a>
102	CS3320	Spring	8	Knuth	<a href="#">Edit</a>
112	MATH2410	Fall	8	Chang	<a href="#">Edit</a>
119	CS1310	Fall	8	Anderson	<a href="#">Edit</a>
135	CS3380	Fall	8	Stone	<a href="#">Edit</a>

## Grade Report

Student Number	Section Identifier	Grade	Actions
8	85	A	<a href="#">Edit</a>
8	92	A	<a href="#">Edit</a>
8	102	B	<a href="#">Edit</a>
8	135	A	<a href="#">Edit</a>
17	112	B	<a href="#">Edit</a>
17	119	C	<a href="#">Edit</a>

## Prerequisite

Course Number	Prerequisite Number	Actions
CS3320	CS1310	<a href="#">Edit</a>
CS3380	CS3320	<a href="#">Edit</a>
CS3380	MATH2410	<a href="#">Edit</a>

## Grades of the student: Brown

Course Name	Course Number	Section Identifier	Instructor	Credit Hours	Semester	Year	Grade
Discrete Mathematics	MATH2410	85	King	3	Fall	7	A
Intro to Computer Science	CS1310	92	Anderson	4	Fall	7	A
Data Structures	CS3320	102	Knuth	4	Spring	8	B
Database	CS3380	135	Stone	3	Fall	8	A

## Grades of the student: Smith

Course Name	Course Number	Section Identifier	Instructor	Credit Hours	Semester	Year	Grade
Discrete Mathematics	MATH2410	112	Chang	3	Fall	8	B
Intro to Computer Science	CS1310	119	Anderson	4	Fall	8	C

## Course Details

Course	Discrete Mathematics
Course Number	MATH2410
Credit Hours	3
Department	MATH

## Prerequisites

None

## Course Details

Course	Database
Course Number	CS3380
Credit Hours	3
Department	CS

## Prerequisites

CS3320

MATH2410

## Instructor Details

Instructor Name	King
Teach Courses	<a href="#">Discrete Mathematics</a>

## Instructor Details

<b>Instructor Name</b>	Anderson
<b>Teach Courses</b>	<a href="#">Intro to Computer Science</a>

## Students Details

Name	Student Number	Class	Major
<a href="#">Brown</a>	8	2	CS
<a href="#">Smith</a>	17	1	CS

## Courses Details

Course Name	Course Number	Credit Hours	Department	Prerequisites
<b>Intro to Computer Science</b>	CS1310	4	CS	None
<b>Data Structures</b>	CS3320	4	CS	CS1310
<b>Database</b>	CS3380	3	CS	CS3320, MATH2410
<b>Discrete Mathematics</b>	MATH2410	3	MATH	None

YouTube Video Link: <https://youtu.be/BJoFmHa1m0M>