**CSUF 332**

**Spring 2019 Database Structure Project**

Instructor: Shawn Wang

Date: May 18th, 2019

Project Website:<http://ecs.fullerton.edu/~cs332t38/>

Server LogIn Info

Login: ssh [cs332t38@shell.ecs.fullerton.edu](mailto:cs332t38@shell.ecs.fullerton.edu)

Password for shell: a

MySQL LogIn Info

Login: mysql -h mariadb -u cs332t38 -p

Password: ahNg7aet

Nguyen Nguyen CWID: 1545 Section: 01

Gregory Vasquez CWID: 9646 Section: 02

Vincent Nguyen CWID: 9656 Section: 02

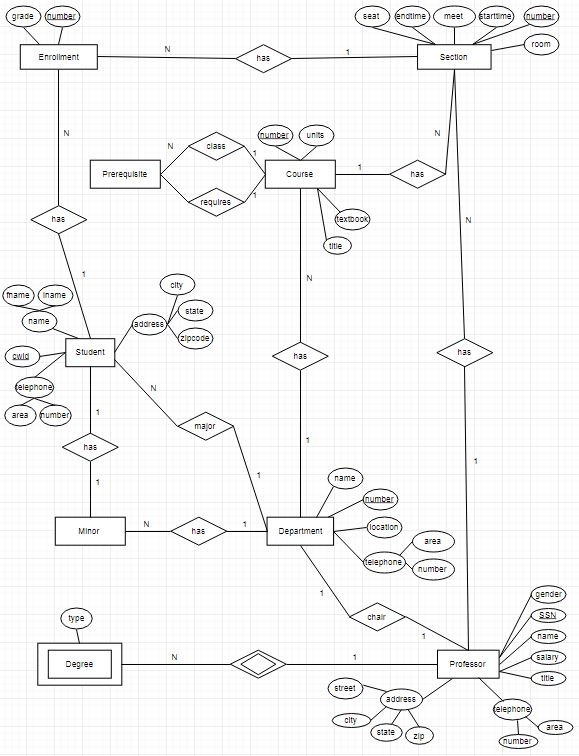
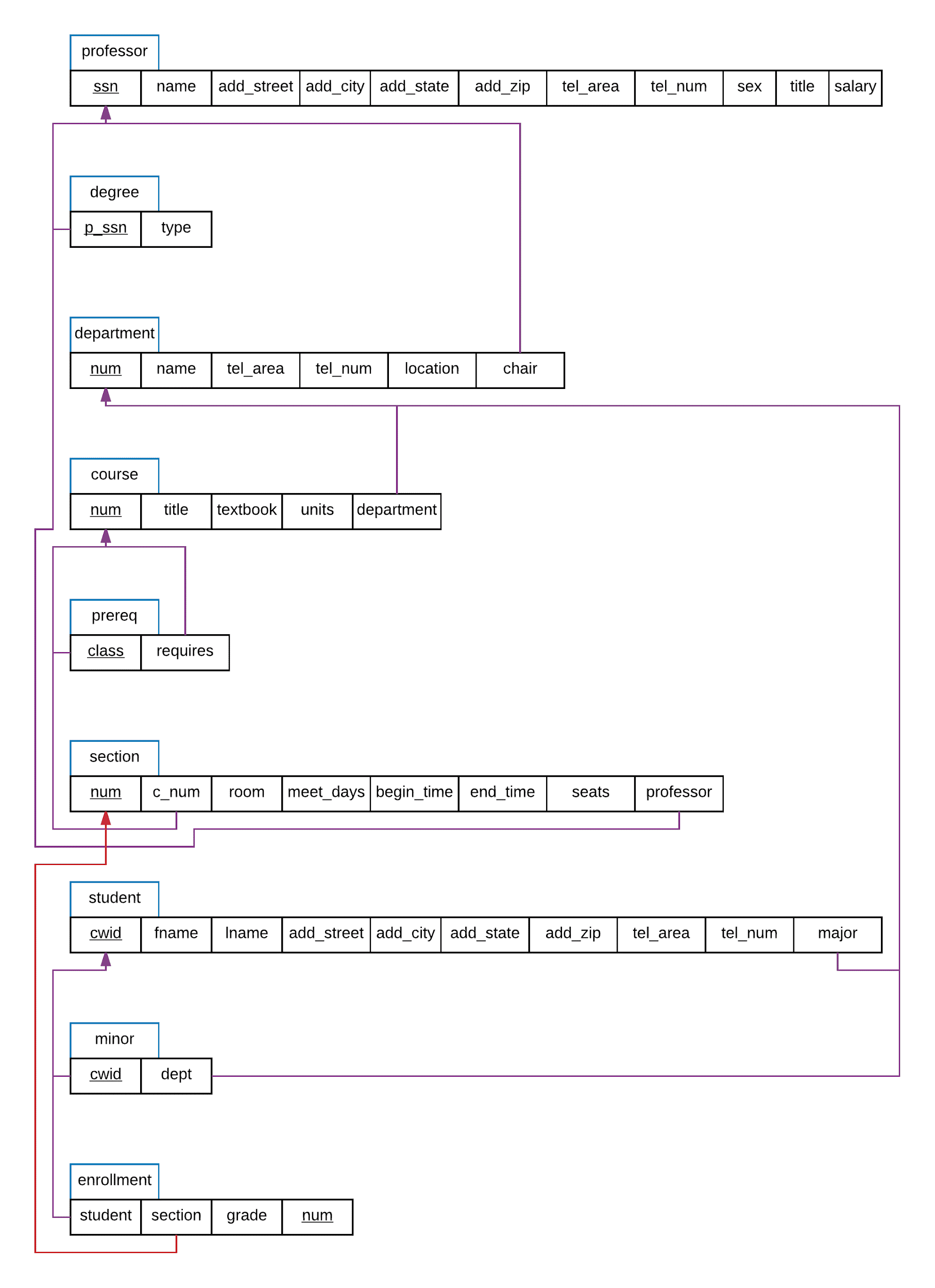
Figure 1: ER Diagram

Figure 2: Relational Model

**DDL Files**

CREATE TABLE `Course` (

`Cnum` decimal(3,0) NOT NULL,

`Title` varchar(20) DEFAULT NULL,

`Textbook` varchar(20) DEFAULT NULL,

`Units` tinyint(4) DEFAULT NULL,

`DeptNum` decimal(5,0) DEFAULT NULL,

PRIMARY KEY (`Cnum`),

KEY `DeptNum` (`DeptNum`),

CONSTRAINT `Course\_ibfk\_1` FOREIGN KEY (`DeptNum`) REFERENCES `Department` (`DNum`)

)

CREATE TABLE `Student` (

`CWID` decimal(9,0) NOT NULL,

`Fname` varchar(20) DEFAULT NULL,

`Lname` varchar(20) DEFAULT NULL,

`Address` varchar(20) DEFAULT NULL,

`Phone` decimal(10,0) DEFAULT NULL,

`MajNo` decimal(5,0) DEFAULT NULL,

PRIMARY KEY (`CWID`),

KEY `MajNo` (`MajNo`),

CONSTRAINT `Student\_ibfk\_1` FOREIGN KEY (`MajNo`) REFERENCES `Department` (`DNum`)

)

CREATE TABLE `Degree` (

`ProfSSN` decimal(9,0) NOT NULL DEFAULT '0',

`DegreeType` varchar(45) NOT NULL,

PRIMARY KEY (`ProfSSN`,`DegreeType`),

CONSTRAINT `Degree\_ibfk\_1` FOREIGN KEY (`ProfSSN`) REFERENCES `Professor` (`SSN`)

)

CREATE TABLE `Department` (

`DNum` decimal(5,0) NOT NULL,

`DName` varchar(40) DEFAULT NULL,

`Location` varchar(40) DEFAULT NULL,

`Phone` decimal(10,0) DEFAULT NULL,

`Chairperson` decimal(9,0) DEFAULT NULL,

PRIMARY KEY (`DNum`),

KEY `Chairperson` (`Chairperson`),

CONSTRAINT `Department\_ibfk\_1` FOREIGN KEY (`Chairperson`) REFERENCES `Professor` (`SSN`)

)

CREATE TABLE `Enrollment` (

`StudentID` decimal(9,0) NOT NULL,

`SectionNum` decimal(5,0) NOT NULL,

`CourseNum` decimal(3,0) NOT NULL,

`Grade` varchar(2) DEFAULT NULL,

PRIMARY KEY (`StudentID`,`SectionNum`,`CourseNum`),

KEY `SectionNum` (`SectionNum`),

KEY `CourseNum` (`CourseNum`),

CONSTRAINT `Enrollment\_ibfk\_1` FOREIGN KEY (`StudentID`) REFERENCES `Student` (`CWID`),

CONSTRAINT `Enrollment\_ibfk\_2` FOREIGN KEY (`SectionNum`) REFERENCES `Section` (`SNum`),

CONSTRAINT `Enrollment\_ibfk\_3` FOREIGN KEY (`CourseNum`) REFERENCES `Course` (`Cnum`)

)

CREATE TABLE `Minor` (

`Student` decimal(9,0) NOT NULL DEFAULT '0',

`Department` decimal(5,0) NOT NULL DEFAULT '0',

PRIMARY KEY (`Student`,`Department`),

KEY `Department` (`Department`),

CONSTRAINT `Minor\_ibfk\_1` FOREIGN KEY (`Student`) REFERENCES `Student` (`CWID`),

CONSTRAINT `Minor\_ibfk\_2` FOREIGN KEY (`Department`) REFERENCES `Department` (`DNum`)

)

CREATE TABLE `Prerequisite` (

`CourseNum` decimal(3,0) NOT NULL,

`PreNum` decimal(3,0) NOT NULL,

PRIMARY KEY (`CourseNum`,`PreNum`),

CONSTRAINT `Prerequisite\_ibfk\_1` FOREIGN KEY (`CourseNum`) REFERENCES `Course` (`Cnum`),

CONSTRAINT `Prerequisite\_ibfk\_2` FOREIGN KEY (`CourseNum`) REFERENCES `Course` (`Cnum`)

)

CREATE TABLE `Professor` (

`SSN` decimal(9,0) NOT NULL,

`Sex` enum('M','F') DEFAULT NULL,

`Area` decimal(3,0) DEFAULT NULL,

`7digit` decimal(7,0) DEFAULT NULL,

`ZIP` decimal(5,0) DEFAULT NULL,

`State` char(2) DEFAULT NULL,

`City` varchar(20) DEFAULT NULL,

`Street` varchar(20) DEFAULT NULL,

`Title` varchar(4) DEFAULT NULL,

`Name` varchar(40) DEFAULT NULL,

`Salary` mediumint(9) DEFAULT NULL,

PRIMARY KEY (`SSN`)

)

CREATE TABLE `Section` (

`SNum` decimal(5,0) NOT NULL,

`CNum` decimal(3,0) NOT NULL DEFAULT '0',

`Room` varchar(7) DEFAULT NULL,

`MeetDays` varchar(7) DEFAULT NULL,

`BeginTime` time DEFAULT NULL,

`EndTime` time DEFAULT NULL,

`ProfSNN` decimal(9,0) DEFAULT NULL,

`NumOfSeats` tinyint(4) DEFAULT NULL,

PRIMARY KEY (`SNum`,`CNum`),

KEY `CNum` (`CNum`),

KEY `ProfSNN` (`ProfSNN`),

CONSTRAINT `Section\_ibfk\_1` FOREIGN KEY (`CNum`) REFERENCES `Course` (`Cnum`),

CONSTRAINT `Section\_ibfk\_2` FOREIGN KEY (`ProfSNN`) REFERENCES `Professor` (`SSN`)

)

**index.html**

<!DOCTYPE html>

<html>

<head>

<title> University Database</title>

</head>

<body style = "background: url(https://upload.wikimedia.org/wikipedia/commons/1/1a/California\_State\_University%2C\_Fullerton\_seal.svg) no-repeat; background-size: 100% 100%;">

<h1> University Database </h1>

<br>

<h2> Professor:</h2>

<form action="professor1.php" method="POST">

Enter your Social Security Number:

<br>

<input type="text" name="sno" placeholder="Ex. 123456789"/>

<br>

<input type="submit" value="Submit">

</form>

<br>

<br>

<form action="professor2.php" method="POST">

<div> Enter the course number: </div>

<input type="text" name="courseNum" placeholder="Ex. 101"/>

<br>

<div> Enter the section number:</div>

<input type="text" name="profSecNum" placeholder="Ex. 1"/>

<br>

<input type="submit" value="Submit">

</form>

<br>

<br>

<h3> Student: </h3>

<form action = "student1.php" method = "POST">

<div> Enter a course number: </div>

<input type="text" name="studCourseNum" placeholder="Ex. 306"/>

<br>

<input type="submit" value="Submit">

</form>

<br>

<br>

<form action = "student2.php" method = "POST">

<div> Enter CWID: </div>

<input type="text" name="CWID" placeholder="Ex. 889000001"/>

<br>

<input type="submit" value="Submit">

</form>

<body>

</html>

**professor1.php**

<html>

<body style = "background: url(https://upload.wikimedia.org/wikipedia/commons/1/1a/California\_State\_University%2C\_Fullerton\_seal.svg) no-repeat; background-size: 100% 100%;">

<?php

$link = mysql\_connect('ecsmysql','cs332t38','ahNg7aet');

if(!$link){

die('Could not connect!'.mysql\_error());

}

echo 'Connected successfully<p>';

mysql\_select\_db('cs332t38',$link); // Connecting, Linking

$professorInput = $\_POST["sno"];

$sqlTest = "SELECT Course.Title, Section.CNum, Section.Room, Section.MeetDays, Section.BeginTime, Section.EndTime FROM Section INNER JOIN Course ON Section.CNum = Course.Cnum WHERE ProfSNN = '{$professorInput}'";

$resultTest = mysql\_query($sqlTest);

echo "~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~";

echo "<br>";

while($array = mysql\_fetch\_assoc($resultTest))

{

echo "Course: ";

echo $array["Title"];

echo "<br>";

echo "Location: ";

echo $array["Room"];

echo "<br>";

echo "Days: ";

echo $array["MeetDays"];

echo "<br>";

echo "Start Time: ";

echo $array["BeginTime"];

echo "<br>";

echo "End Time: ";

echo $array["EndTime"];

echo "<br>";

echo "~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~";

echo "<br>";

}

mysql\_close($link);

?>

</body>

</html>

**professor2.php**

<html>

<body style = "background: url(https://upload.wikimedia.org/wikipedia/commons/1/1a/California\_State\_University%2C\_Fullerton\_seal.svg) no-repeat; background-size: 100% 100%;">

<?php

$link = mysql\_connect('ecsmysql','cs332t38','ahNg7aet');

if(!$link){

die('Could not connect!'.mysql\_error());

}

echo 'Connected successfully<p>';

mysql\_select\_db('cs332t38',$link); // Connecting, Linking

$prof1 = $\_POST["courseNum"];

$prof2 = $\_POST["profSecNum"];

$sql = "SELECT Grade, COUNT(Grade) as gCount FROM Enrollment WHERE CourseNum = '{$prof1}' AND SectionNum = '{$prof2}' Group by Grade";

$result= mysql\_query($sql);

echo "Grade";

echo " ";

echo "Count";

echo "<br>";

echo "<br>";

while($array = mysql\_fetch\_assoc($result))

{

echo $array["Grade"];

echo ": ";

echo $array["gCount"];

echo "<br>";

}

mysql\_close($link);

?>

</body>

</html>

**student1.php**

<html>

<body style = "background: url(https://upload.wikimedia.org/wikipedia/commons/1/1a/California\_State\_University%2C\_Fullerton\_seal.svg) no-repeat; background-size: 100% 100%;">

<?php

$link = mysql\_connect('ecsmysql', 'cs332t38', 'ahNg7aet');

if(!$link){

die('Could not connect!'.mysql\_error());

}

echo 'Connected successfully<p>';

mysql\_select\_db('cs332t38',$link);

$numInput = $\_POST["studCourseNum"];

$sql = "SELECT SNum, Room, MeetDays, BeginTime, EndTime, NumOfSeats FROM Section WHERE CNum = '{$numInput}'";

$result = mysql\_query($sql);

echo "~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~";

echo "<br>";

while($row = mysql\_fetch\_assoc($result)) {

echo "Section: ";

echo $row["SNum"];

echo "<br>";

echo "Location: ";

echo $row["Room"];

echo "<br>";

echo "Days: ";

echo $row["MeetDays"];

echo "<br>";

echo "Start Time: ";

echo $row["BeginTime"];

echo "<br>";

echo "End Time: ";

echo $row["EndTime"];

echo "<br>";

echo "Students Enrolled: ";

echo $row["NumOfSeats"];

echo "<br>";

echo "~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~";

echo "<br>";

}

mysql\_close($link);

?>

</body>

</html>

**student2.php**

<html>

<body style = "background: url(https://upload.wikimedia.org/wikipedia/commons/1/1a/California\_State\_University%2C\_Fullerton\_seal.svg) no-repeat; background-size: 100% 100%;">

<?php

$link = mysql\_connect('ecsmysql', 'cs332t38', 'ahNg7aet');

if(!$link) {

die('Could not connect!'.mysql\_error());

}

echo "Connected successfully<p>";

mysql\_select\_db('cs332t38', $link);

$cwidInput = $\_POST["CWID"];

$sql = "SELECT Course.Title, Enrollment.Grade FROM Enrollment INNER JOIN Course ON Enrollment.CourseNum = Course.Cnum WHERE StudentID = '{$cwidInput}'";

$result = mysql\_query($sql);

echo "~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~";

echo "<br>";

while($row = mysql\_fetch\_assoc($result)) {

echo "Course: ";

echo $row["Title"];

echo "<br>";

echo "Grade: ";

echo $row["Grade"];

echo "<br>";

echo "~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~";

echo "<br>";

}

mysql\_close($link);

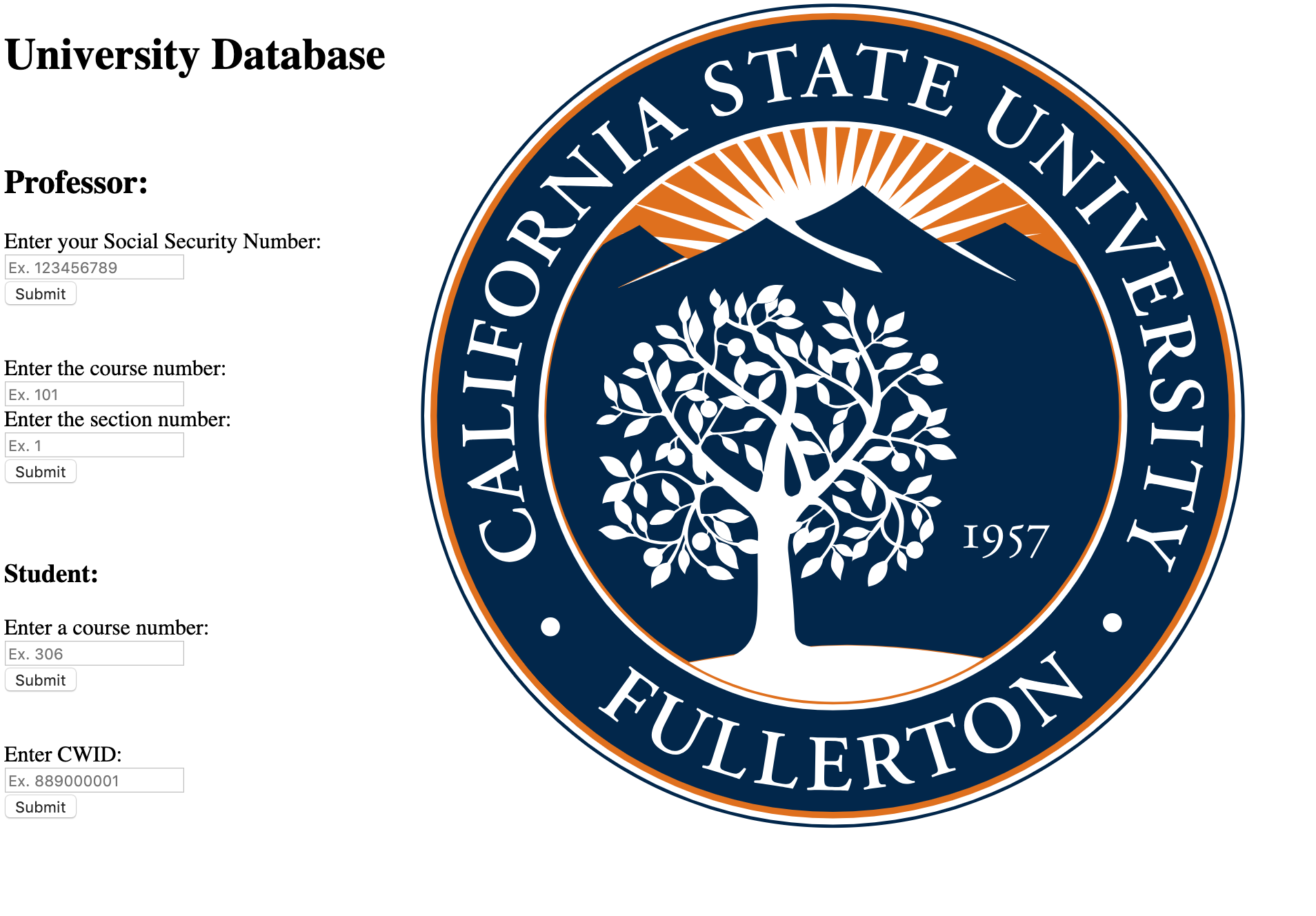
?>

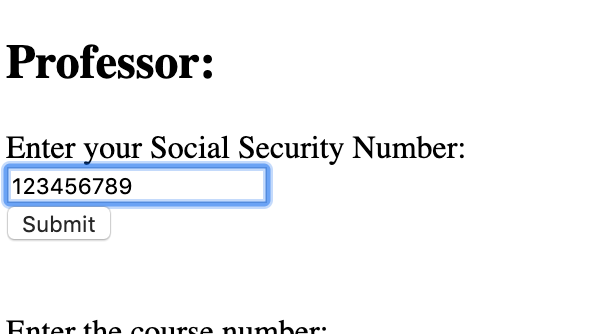
</body>

</html>

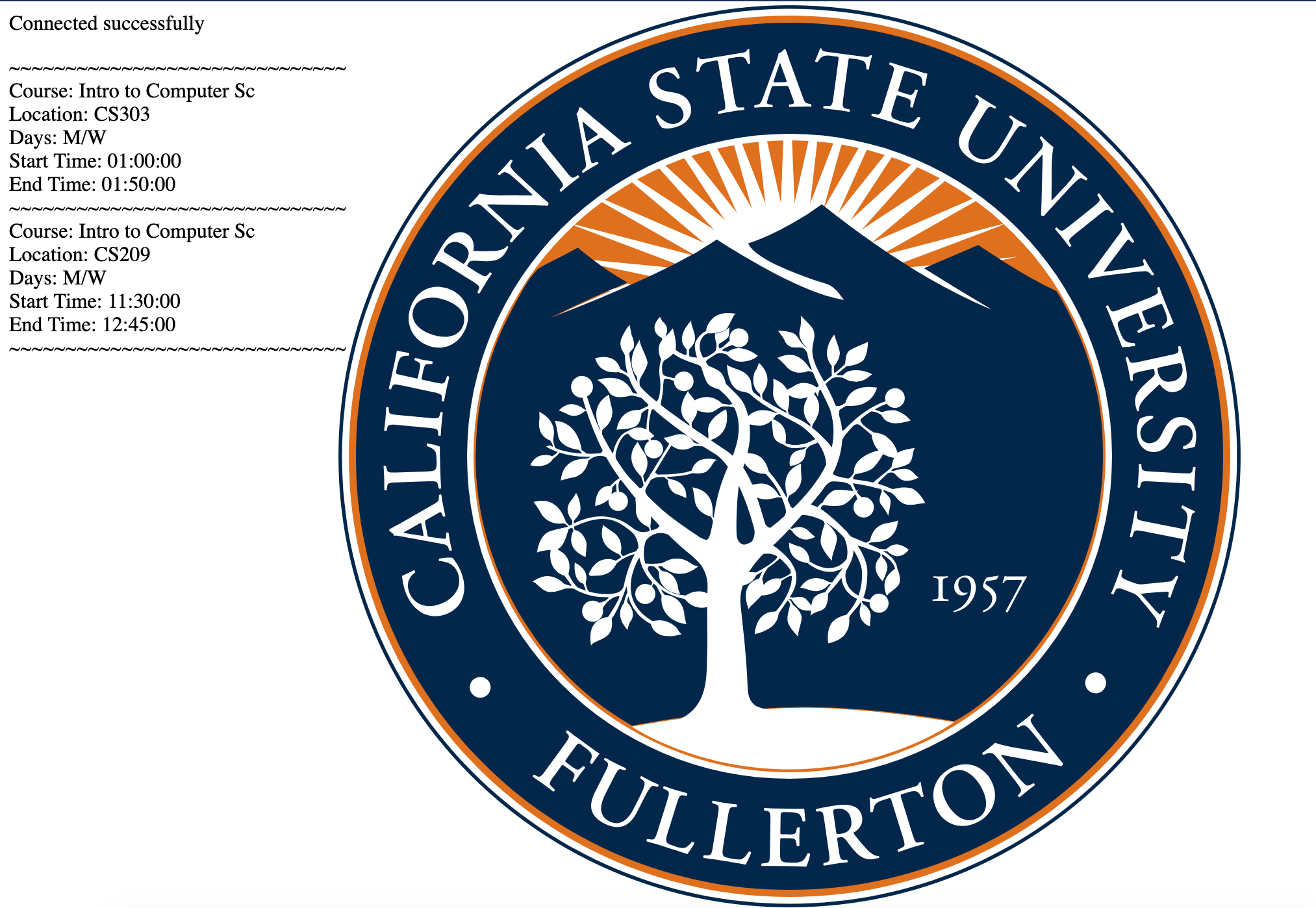
**Screenshots of Sample Runs**

**Mainpage**

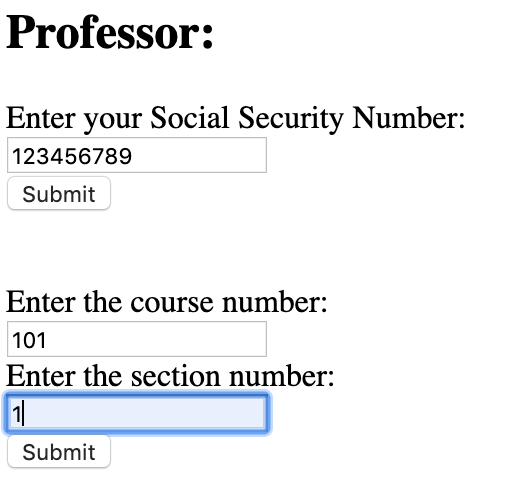


**Given the SSN of a professor**

**Given the SSN of a professor (Output)**



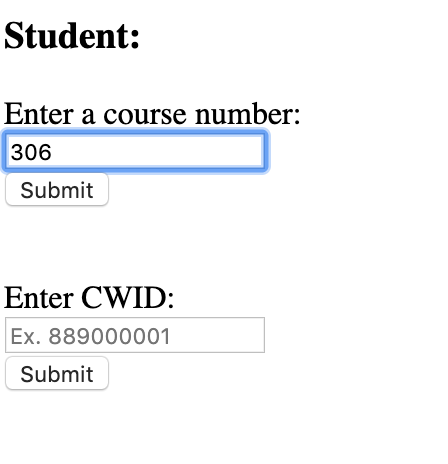
**Given the course number and section number**



**Given the course number and section number (Output)**



**Given the course number (for student)**

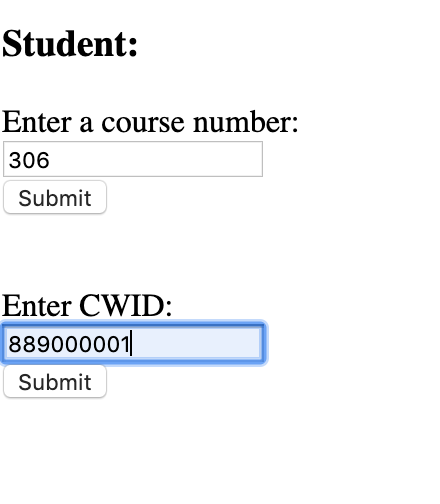


**Given the course number (Output)**



1

**Given the CWID**



**Given the CWID (Output)**

