

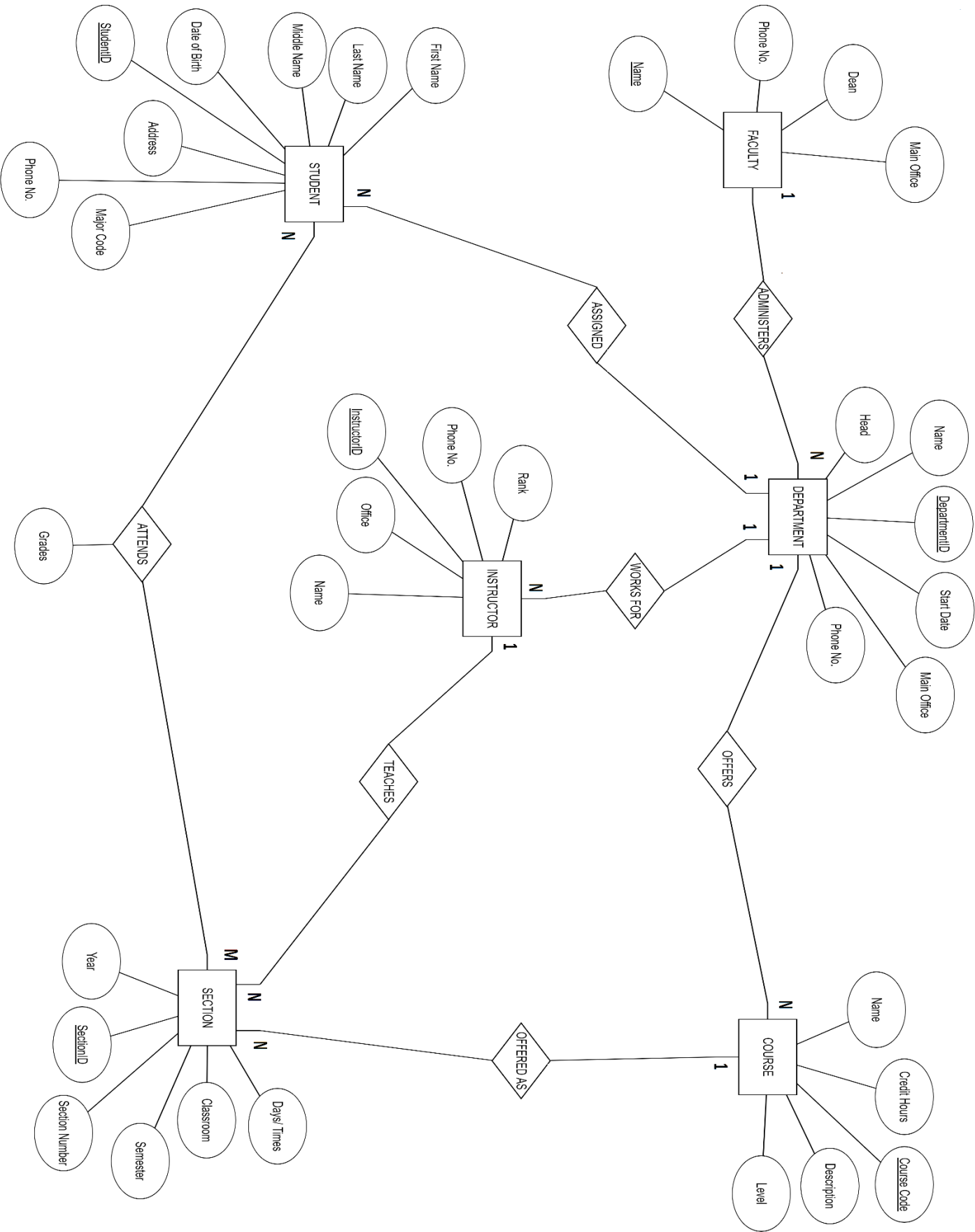


BT2102 – LAB 1 (STUDENT ENROLLMENTS)

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ER Diagram



Relations

FACULTY (FacultyName, PhoneNo, Dean, MainOffice)

DEPARTMENT (DepartmentID, DepartmentName, Head, StartDate, MainOffice, PhoneNo, **FacultyName**)

COURSE (CourseCode, CourseName, Description, Level, CreditHours, **DepartmentID**)

INSTRUCTOR (InstructorID, Name, Office, PhoneNo, Rank, **DepartmentID**)

SECTION (SectionID, Year, Semester, DaysTimes, Classroom, SectionNo, **CourseCode**, **InstructorID**)

STUDENT (StudentID, FirstName, MiddleName, LastName,
DOB, Address, MajorCode, PhoneNo, **DepartmentID**)

ATTENDS (**StudentID**, **SectionID**, Grade)

BOLD – Foreign Key
Underline – Primary Key

Data Types

Relation	Attribute	Comment	Data Type
FACULTY	FacultyName	Primary	CHAR (5)
	PhoneNo		CHAR (10)
	Dean		VARCHAR (100)
	MainOffice		VARCHAR (20)
DEPARTMENT	DepartmentID	Primary	CHAR (10)
	DepartmentName		VARCHAR (100)
	Head		VARCHAR (100)
	StartDate		DATE
	MainOffice		VARCHAR (20)
	PhoneNo		CHAR (10)
	FacultyName	Foreign (Faculty)	VARCHAR (50)
COURSE	CourseCode	Primary	CHAR (10)
	CourseName		VARCHAR (100)
	Description		TEXT
	Level		TINYINT
	CreditHours		TINYINT
	DepartmentID	Foreign (Department)	CHAR (10)
SECTION	SectionID	Primary	CHAR (10)
	Year		YEAR (4)
	Semester		TINYINT
	DaysTimes		VARCHAR (35)
	Classroom		CHAR (15)
	SectionNo		TINYINT
	CourseCode	Foreign (Course)	CHAR (10)
	InstructorID	Foreign (Instructor)	CHAR (10)
INSTRUCTOR	InstructorID	Primary	CHAR (10)
	Name		VARCHAR (100)
	Office		VARCHAR (20)
	PhoneNo		CHAR (10)
	Rank		VARCHAR (50)
	DepartmentID	Foreign (Department)	CHAR (10)
STUDENT	StudentID	Primary	CHAR (10)
	FirstName		VARCHAR (30)
	MiddleName		VARCHAR (30)
	LastName		VARCHAR (30)
	DOB		DATE
	Address		VARCHAR (255)
	MajorCode		CHAR (10)
	PhoneNo		CHAR (10)
	DepartmentID	Foreign (Department)	CHAR (10)
ATTENDS	StudentID	Primary, Foreign (Student)	CHAR (10)
	SectionID	Primary, Foreign (Section)	CHAR (10)
	Grade		CHAR (2)

SQL Code

```
CREATE DATABASE IF NOT EXISTS enrollments;
```

```
USE enrollments;
```

```
CREATE TABLE faculty (FacultyName VARCHAR(50), PhoneNo CHAR(10), Dean VARCHAR(100), MainOffice  
VARCHAR(20), PRIMARY KEY (FacultyName));
```

```
CREATE TABLE department (DepartmentID CHAR(10), DepartmentName VARCHAR(100), Head VARCHAR(100),  
StartDate DATE, MainOffice VARCHAR(20), PhoneNo CHAR(10), FacultyName VARCHAR(50), PRIMARY KEY  
(DepartmentID), FOREIGN KEY (FacultyName) REFERENCES faculty (FacultyName));
```

```
CREATE TABLE course (CourseCode CHAR(10), CourseName VARCHAR(100), Description TEXT, Level TINYINT,  
CreditHours TINYINT, DepartmentID CHAR(10), PRIMARY KEY (CourseCode), FOREIGN KEY (DepartmentID)  
REFERENCES department (DepartmentID));
```

```
CREATE TABLE instructor (InstructorID CHAR(10), Name VARCHAR(100), Office VARCHAR(20), PhoneNo CHAR(10),  
Rank VARCHAR(50), DepartmentID CHAR(10), PRIMARY KEY (InstructorID), FOREIGN KEY (DepartmentID)  
REFERENCES department (DepartmentID));
```

```
CREATE TABLE section (SectionID CHAR(10), Year YEAR(4), Semester TINYINT, DaysTimes VARCHAR(30), Classroom  
CHAR(15), SectionNo TINYINT, CourseCode CHAR(10), InstructorID CHAR(10), PRIMARY KEY (SectionID), FOREIGN KEY  
(CourseCode) REFERENCES course (CourseCode), FOREIGN KEY (InstructorID) REFERENCES instructor (InstructorID));
```

```
CREATE TABLE student (StudentID CHAR(10), FirstName VARCHAR(30), MiddleName VARCHAR(30), LastName  
VARCHAR(30), DOB DATE, Address VARCHAR(255), MajorCode CHAR(10), PhoneNo CHAR (10), DepartmentID  
CHAR(10), PRIMARY KEY (StudentID), FOREIGN KEY (DepartmentID) REFERENCES department (DepartmentID));
```

```
CREATE TABLE attends (StudentID CHAR(10), SectionID CHAR(10), Grade CHAR(2), PRIMARY KEY (StudentID,  
SectionID), FOREIGN KEY (StudentID) REFERENCES student (StudentID), FOREIGN KEY (SectionID) REFERENCES  
section (SectionID));
```

To run (from linux terminal OR from mysql shell):

```
shell> mysql -u root -p [dbname] < [filename.sql]
```

OR

```
mysql> source [path-to-file]\\[filename.sql]
```

Screenshots

```
mysql> desc faculty;
```

Field	Type	Null	Key	Default	Extra
FacultyName	varchar(50)	NO	PRI	NULL	
PhoneNo	char(10)	YES		NULL	
Dean	varchar(100)	YES		NULL	
MainOffice	varchar(20)	YES		NULL	

```
mysql> desc department;
```

Field	Type	Null	Key	Default	Extra
DepartmentID	char(10)	NO	PRI	NULL	
DepartmentName	varchar(100)	YES		NULL	
Head	varchar(100)	YES		NULL	
StartDate	date	YES		NULL	
MainOffice	varchar(20)	YES		NULL	
PhoneNo	char(10)	YES		NULL	
FacultyName	varchar(50)	YES	MUL	NULL	

```
mysql> desc course;
```

Field	Type	Null	Key	Default	Extra
CourseCode	char(10)	NO	PRI	NULL	
CourseName	varchar(100)	YES		NULL	
Description	text	YES		NULL	
Level	tinyint(4)	YES		NULL	
CreditHours	tinyint(4)	YES		NULL	
DepartmentID	char(10)	YES	MUL	NULL	

```
mysql> desc instructor;
```

Field	Type	Null	Key	Default	Extra
InstructorID	char(10)	NO	PRI	NULL	
Name	varchar(100)	YES		NULL	
Office	varchar(20)	YES		NULL	
PhoneNo	char(10)	YES		NULL	
Rank	varchar(50)	YES		NULL	
DepartmentID	char(10)	YES	MUL	NULL	

```
mysql> desc section;
```

Field	Type	Null	Key	Default	Extra
SectionID	char(10)	NO	PRI	NULL	
Year	year(4)	YES		NULL	
Semester	tinyint(4)	YES		NULL	
DaysTimes	varchar(30)	YES		NULL	
Classroom	char(15)	YES		NULL	
SectionNo	tinyint(4)	YES		NULL	
CourseCode	char(10)	YES	MUL	NULL	
InstructorID	char(10)	YES	MUL	NULL	

```
mysql> desc student;
```

Field	Type	Null	Key	Default	Extra
StudentID	char(10)	NO	PRI	NULL	
FirstName	varchar(30)	YES		NULL	
MiddleName	varchar(30)	YES		NULL	
LastName	varchar(30)	YES		NULL	
DOB	date	YES		NULL	
Address	varchar(255)	YES		NULL	
MajorCode	char(10)	YES		NULL	
PhoneNo	char(10)	YES		NULL	
DepartmentID	char(10)	YES	MUL	NULL	

```
mysql> desc attends;
```

Field	Type	Null	Key	Default	Extra
StudentID	char(10)	NO	PRI	NULL	
SectionID	char(10)	NO	PRI	NULL	
Grade	char(2)	YES		NULL	