## Question 1: Draw EERD

An international school of technology has hired you to create a database management system to assist in scheduling classes. After several interviews with the president, you have come up with the following list of entities, attributes, and initial business rules.

Room is identified by Building ID and Room No and also has a Capacity. A room can be either a lab or a classroom. If it is a classroom, it has an additional attribute called Board Type.

- Media is identified by MType ID and has attributes of Media Type and Type Description. Note: Here we are tracking type of media (such as a VCR, projector, etc.), not the individual piece of equipment. Tracking of equipment is outside of the scope of this project.
- Computer is identified by CType ID and has attributes Computer Type, Type Description, Disk Capacity, and Processor Speed. Please note: As with Media Type, we are tracking only the type of computer, not an individual computer. You can think of this as a class of computers (e.g., PIII 900MHZ).
- Instructor has identifier Emp ID and has attributes Name, Rank, and Office Phone.
- Timeslot has identifier TSIS and has attributes Day Of Week, Start Time, and End Time.
- Course has identifier Course ID and has attributes Course Description and Credits. Courses can have one, none, or many prerequisites. Courses also have one or more sections.
- Section has identifier Section ID and attribute Enrollment Limit.


After some further discussions, you have come up with some additional business rules to help you create the initial design:

- An instructor teaches one, none, or many sections of a course in each semester.
- An instructor specifies preferred time slots.
- Scheduling data are kept for each semester, uniquely identified by semester and year.
- A room can be scheduled for one section or no section during one time slot in a given semester of a given year. However, one room can participate in many schedules, one schedule, or no schedules; one time slot can participate in many schedules, one schedule, or no schedules; one section can participate in many schedules, one schedule, or no schedules. Hint: Can you associate this to anything that you have seen before?
- A room can have one type of media, several types of media, or no media.
- Instructors are trained to use one, none, or many types of media.
- A lab has one or more computer types. However, a classroom does not have any computers.
- A room cannot be both a classroom and a lab. There also are no other room types to be incorporated into the system.

## Question 2: Draw EERD

A database is required for judiciary to keep record of law. The organization wants to keep record of prisoner and their cases information. The prisoner has the unique number name address . the perisoner commit different type of crimes. The crime has unique number, punishment type and duration. The crime can be medium, low and high risk crime.

Minimum security prisons are usually reserved for white collar criminals who have committed acts such as embezzlement or fraud. Although these are serious crimes, they are non-violent in nature and therefore the perpetrators are not considered to be a risk for violence. These perpetrators are sent to facilities that offer a dormitory-type living environment, fewer guards, and more personal freedoms, The characteristic of this type is living environment and punishment duration.

Medium security prisons are the standard facilities used to house most criminals. They feature cage-style housing, armed guards, and a much more regimented daily routine than minimum security. The attributes for this type of crime are punishment amount.

High security prisons are reserved for the most violent and dangerous offenders. These prisons include far more guards than both minimum and medium security, and very little freedom. Each person confined to such a prison is considered to be a high-risk individual. The attributes of high security risk are date of committed crime and severity level. The persior may commit one or all type of crime. The crime committed by any prisoner have hearing.

The cases are of two type either the cases has been closed and their final result has been saved. Or the hearing is continues. In case of continues case the date of next hearing and record of previous findings are store.