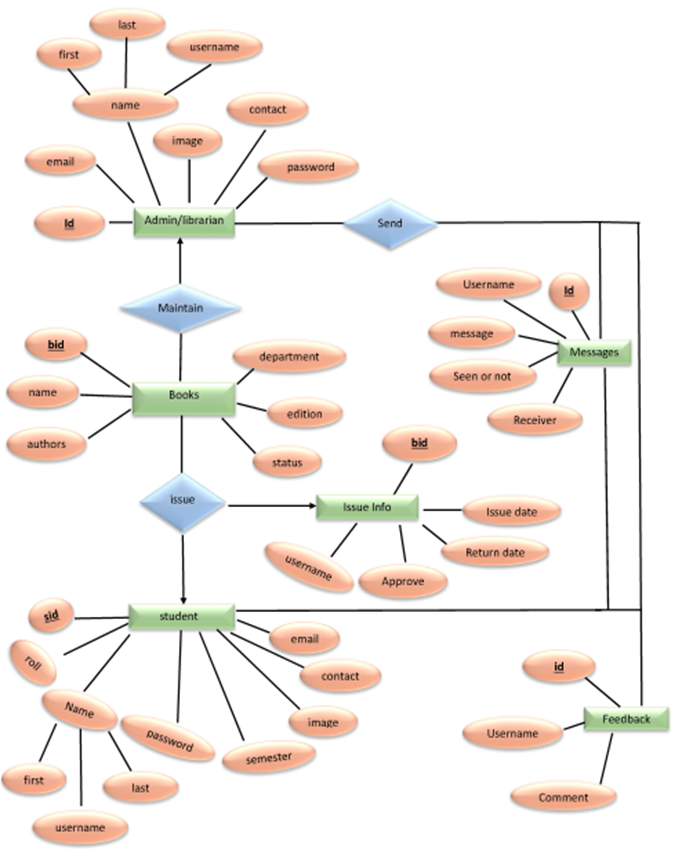
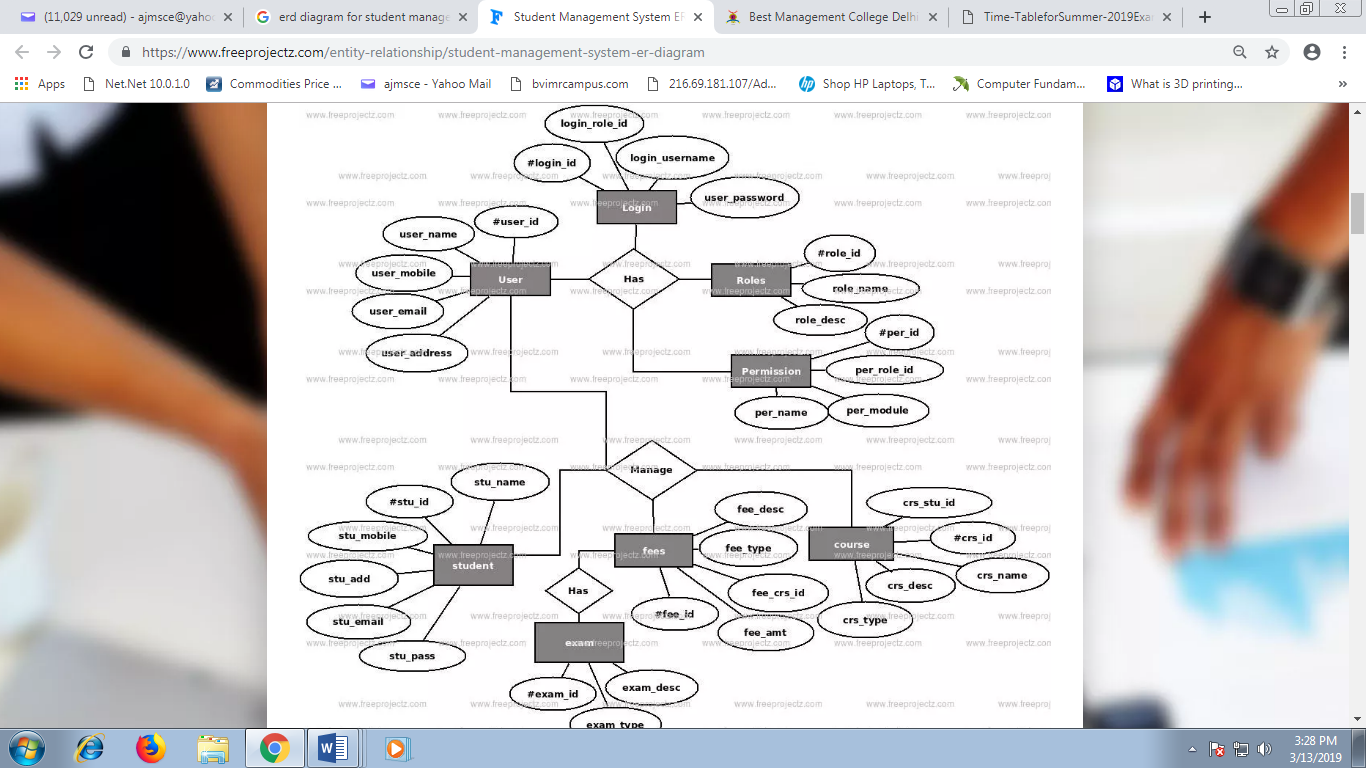


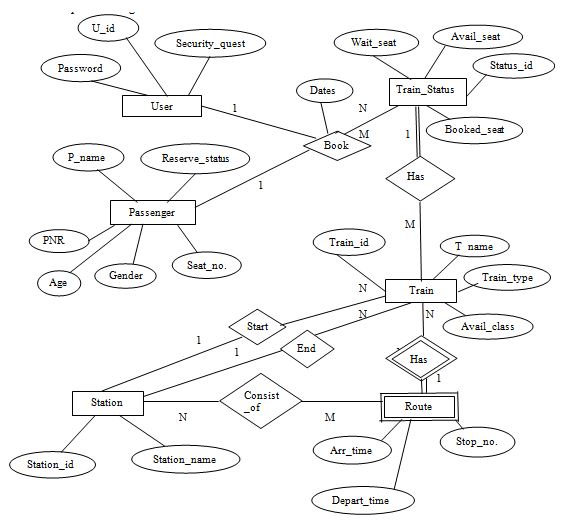
**Step 1: E-R Diagram of Library Management System**



**Step 1: E-R Diagram Student management system**



**Step 1: E-R Diagram of BUS/ train ticket booking system**



**USER**

| **U\_id** | **Primary Key** |
| --- | --- |
| Password |  |
| Security\_quest |  |

**Passenger**

| **PNR** | **Primary Key** |
| --- | --- |
| P\_name |  |
| Age |  |
| Gender |  |
| Seat\_no. |  |
| Reserve\_status |  |
| U\_id | Foreign key references to U\_id of User table. |
| Status\_id | Foreign key references to Status\_id of Train\_Status Table. |
| Train\_id | Foreign key references to Train\_id of Train Table |

**Train\_Status**

| **Status\_id** | **Primary Key** |
| --- | --- |
| Wait\_seat |  |
| Avail\_seat |  |
| Booked\_seat |  |
| Train\_id | Foreign key references to Train\_id of Train Table |
| PNR | Foreign key references to PNR of Passenger table. |

**Train**

| **Train\_id** | **Primary Key** |
| --- | --- |
| T\_name |  |
| Train\_type |  |
| Avail\_class |  |
| Status\_id | Foreign key references to Status\_id of Train\_Status Table. |

**Route**

| **Arr\_time** |  |
| --- | --- |
| Depart\_time |  |
| Stop no. |  |
| Station\_id | Foreign key references to Station\_id of Station table. |
| Train\_id | Foreign key references to Train\_id of Train Table |

**Station**

| **Station\_id** | **Primary Key** |
| --- | --- |
| Station\_name |  |

**Step 3: Mapping of Attributes**

a. **Simple Attributes**

Simple attributes which cannot be divided into subparts.

**Example:** Seat Number of passenger

b. **Composite Attributes**

Composite attributes which can be divided into subparts.

**Example:** Passenger Name, Reservation status

**P\_name**

| **First\_Name** |
| --- |
| Middle\_Name |
| Last\_name |

**Reserve\_status**

| **Waiting** |
| --- |
| Confirmed |

**Step 5: Mapping of Relationships**

a. **Foreign Key approach**

**Passenger\_Table**

| **U\_id** | **Passenger table makes foreign key references to U\_id of User table.** |
| --- | --- |
| Status\_id | Passenger table makes foreign key references to Status\_id of Train\_Status Table. |
| Train\_id | Passenger table makes foreign key references to Train\_id of Train Table |

**Train\_Status**

| **Train\_id** | **Train\_status table makes foreign key references to Train\_id of Train Table** |
| --- | --- |
| PNR | Train\_status table makes foreign key references to PNR of Passenger table. |

**Train**