

# ASSIGNMENT 01

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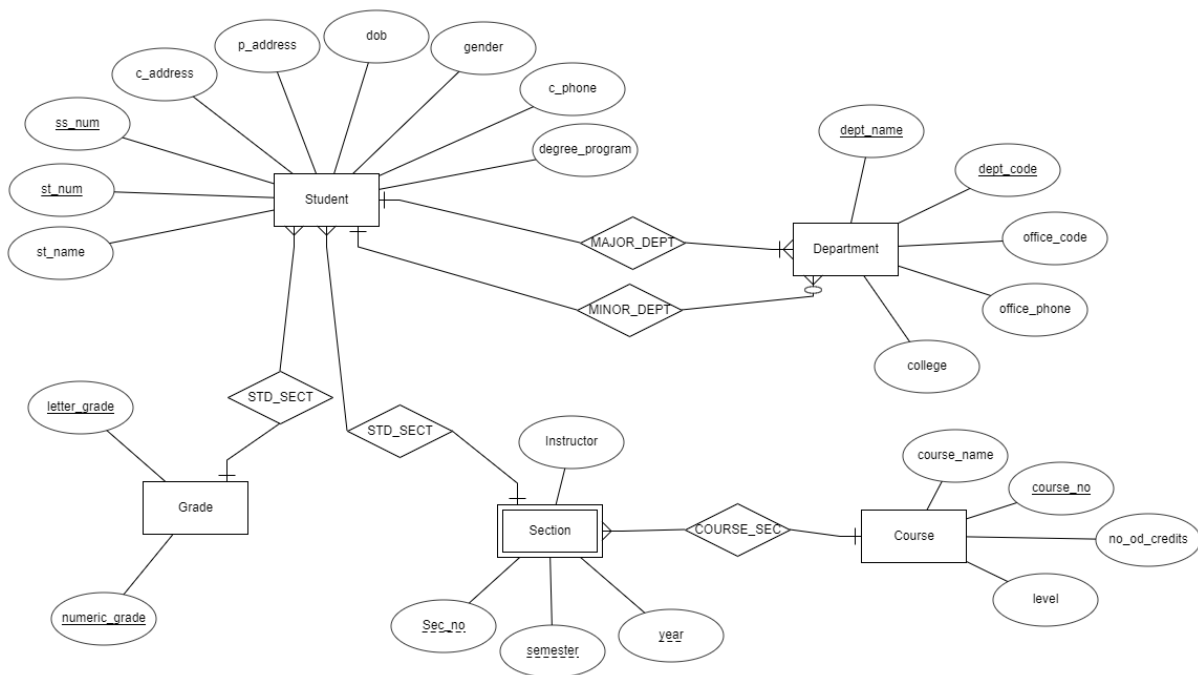
SUBJECT: DATABASE SYSTEM

SECTION: 6b

INSTRUCTOR: MISS.SAFIA FATIMA

## QUESTION 01

ERD DIAGRAM OF UNIVERSITY DATABASE SYSTEM.



## QUESTION 2

The following statement creates a table Student.

```
CREATE TABLE STUDENT(  
    st_name VARCHAR2(20) PRIMARY KEY,  
    st_num NUMERIC(4) NOT NULL,  
    ss_num NUMERIC(4) NOT NULL,  
    c_addres VARCHAR(20),  
    p_address VARCHAR(20),  
    dob DATE NOT NULL,  
    gender VARCHAR(10) NOT NULL,  
    c_phone VARCHAR(12) NOT NULL,  
    degree_program VARCHAR(15) NOT NULL,  
  
    CONSTRAINT UC_STUDENT UNIQUE(st_num, ss_num)  
);
```

UNIQUE - Ensures that all values in a column are different

Here st\_num and ss\_name are two unique attributes. So we use as a UNIQUE Constraint in this table.

NOT NULL - Ensures that a column cannot have a NULL value.

PRIMARY KEY - A combination of a NOT NULL and UNIQUE.

VARCHAR is a variable length string data type, so it holds only the characters you assign to it.

The following statement creates a table GRADE.

```
CREATE TABLE GRADE(  
    letter_grade VARCHAR(15) NOT NULL,  
    numeric_grade VARCHAR(15) NOT NULL,  
  
    CONSTRAINT UC_GRADE UNIQUE(letter_grade ,numeric_grade)  
  
);
```

In this table letter\_grade and numeric\_grade are two unique attributes. NOT NULL - Ensures that a column cannot have a NULL value.

The following statement creates a table DEPARTMENT.

```
CREATE TABLE DEPARTNMET(  
    dept_name VARCHAR(20) PRIMARY KEY,  
    dept_code VARCHAR(5) NOT NULL,  
    office_code VARCHAR(5) NOT NULL,  
    office_phone char(12),  
    college VARCHAR(12),  
    PRIMARY KEY(dept_name),  
    CONSTRAINT UC_DEPARTMENT UNIQUE(dept_name,dept_code)  
  
);
```

For each deparment we have two attributes are unique. Such as dept\_name and dept\_code. So we use use UNIQUE Constraint. also NOT NULL - Ensures that a column cannot have a NULL value. Varchar and char are the datatypes of corresponding attributes,

The following statement creates a table Course.

```
CREATE TABLE COURSE (  
    course_name VARCHAR(15) PRIMAY KEY,  
    course_no NUMERIC(5) NOT NULL  
    no_of_credits NUMERIC(2) NOT NULL,  
    level VARCHAR(5),  
    PRIMARY KEY(course_name),  
    UNIQUE(course_no)  
  
);
```

For each Course we have one unique attributes, Such as course\_no. So we use UNIQUE Constraint. also NOT NULL - Ensures that a column cannot have a NULL value. Varchar, Numeric and char are the datatypes of corresponding attributes.

The following statement creates a table Section.

```
CREATE TABLE SECTION(  
    sec_no VARCHAR(5) NOT NULL,  
    semester INT NOT NULL,  
    year YEAR NOT NULL,  
    instructor VARCHAR(15) NOT NULL,  
  
    PRIMARY KEY (sec_no)  
  
);
```

For each SECTION we have one unique attributes, Such as sec\_no. So we use UNIQUE Constraint. also NOT NULL - Ensures that a column cannot have a NULL value. Varchar, Numeric and year are the datatypes of corresponding attributes.

