```sql
-- Class Assignment 3 - DDL_DML
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-- 1. Create Database schema called ClassAssignment
        -- Use ClassAssignment database for rest of the exercise.

DROP SCHEMA IF EXISTS `ClassAssignment`;
CREATE SCHEMA IF NOT EXISTS `ClassAssignment`;
USE `ClassAssignment` ;

-- 2. Create a table called Project with the following columns:

DROP TABLE IF EXISTS Project;
CREATE TABLE IF NOT EXISTS Project(
        project_num INT(10) NOT NULL PRIMARY KEY,
        project_code CHAR(4),
        project_title VARCHAR(45),
        first_name VARCHAR(45),
        last_name VARCHAR(45),
        project_budget DECIMAL(5,2)
);

DESC Project;
SELECT * FROM Project;

-- 3. Modify project_num to auto_increment and also auto_increment starts from 10.

ALTER TABLE Project
        MODIFY project_num INT AUTO_INCREMENT;

ALTER TABLE Project
        AUTO_INCREMENT = 10;

-- 4. Modify project_budget datatype from decimal (5, 2) to (10, 2).

ALTER TABLE Project
        MODIFY project_budget DECIMAL(10,2);
```

-- 5. Insert following values into the Project table.

```
INSERT INTO Project (project_code,project_title,first_name,last_name,project_budget)
        VALUES ('PC01','DIA','John','Smith','10000.99'),
        ('PC02','CHF','Tim','Cook',12000.50),
        ('PC03','AST','Rhonda','Smith',8000.40);

DESC Project;
SELECT * FROM Project;
```

-- 6. Create a table PayRoll with the following info:

```
DROP TABLE IF EXISTS PayRoll;
CREATE TABLE IF NOT EXISTS PayRoll(
        employee_num INT(10) PRIMARY KEY AUTO_INCREMENT,
        job_id INT(10) NOT NULL,
        job_desc VARCHAR(40),
        emp_pay DECIMAL (10,2)
);

DESC PayRoll;
SELECT * FROM PayRoll;
```

-- 7. Alter PayRoll table with the following, make sure to write each scripts separately.

```
-- i
ALTER TABLE PayRoll
        ADD CONSTRAINT emp_pay_limit CHECK (emp_pay >= 10000);

-- ii
ALTER TABLE PayRoll
        ALTER job_desc SET DEFAULT 'Data Analyst';

-- iii
ALTER TABLE PayRoll
                ADD pay_date DATE AFTER job_desc;
```

-- 8. Add Foreign Key constraint in PayRoll table with job_id column referencing to project_num column in Project table.

```
ALTER TABLE PayRoll
        ADD FOREIGN KEY (job_id) REFERENCES Project(project_num);
```

-- 9. Insert following values into PayRoll table. DO NOT insert employee_num and job_desc, those should be auto populated using auto_increment and default values, respectively.

```
INSERT INTO PayRoll (job_id,pay_date,emp_pay)
        VALUES (10, curdate(), 12000.99),
        (11, curdate(), 14000.99),
        (12, curdate(), 16000.99);
```

-- 10. Update emp_pay in PayRoll table for employee_num = 2 with 10% emp_pay increase i.e. (emp_pay * 0.10).

```
UPDATE PayRoll
        SET emp_pay = emp_pay*1.1
        WHERE employee_num = 2;
```

```
DESC PayRoll;
SELECT * FROM PayRoll;
```

-- 11. Create Project_backup table from project table you created above using bulk insert statement only for last_name 'Smith'.

```
CREATE TABLE Project_backup
        SELECT * FROM Project
        WHERE last_name = 'Smith';
```

```
DESC Project_backup;
SELECT * FROM Project_backup;
```

-- 12. Create VIEW as PayRoll_View from PayRoll table you created above. However, your VIEW should only contain job_id, job_desc and pay_date for job_id > 10.

```
CREATE VIEW PayRoll_View AS
        SELECT job_id,job_desc,pay_date FROM PayRoll
        WHERE job_id > 10;
```

```
DESC PayRoll_View;
SELECT * FROM PayRoll_View;
```

-- 13. Create Index for pay_date on PayRoll table.

```
CREATE INDEX IX_pay_date ON PayRoll (pay_date);
SHOW INDEX FROM PayRoll;
```

-- 14. Delete all data from project_backup table but keep the table structure.
```
TRUNCATE TABLE Project_backup;
```

-- 15. Write a DELETE script to delete a row from Project table where project_num = 10. If there is an error, give a short explanation of what/why about error msg?

```
DELETE FROM Project
        WHERE project_num = 10;
```

-- Error Code: 1451. Cannot delete or update a parent row: a foreign key constraint fails (`classassignment`.`payroll`, CONSTRAINT `payroll_ibfk_1` FOREIGN KEY (`job_id`) REFERENCES `project` (`project_num`))
-- Error shows because there is a foreign key linking the tables "Payroll" and "Project". There is a Foreign key connecting PayRoll table with job_id column referencing to project_num column in Project table.

```
DELETE FROM PayRoll
        WHERE job_id = 10;
```

```
DELETE FROM Project
        WHERE project_num = 10;
```

```
DESC PayRoll;
SELECT * FROM PayRoll;
DESC Project;
SELECT * FROM Project;
```