HW-3 DDL_DML
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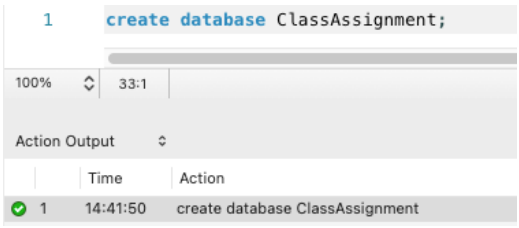
1. **Create Database schema called ClassAssignment**

```
1    create database ClassAssignment;
```



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

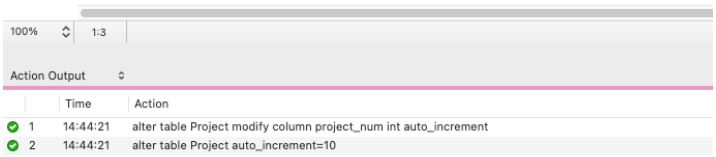
project_num INT NOT NULL PRIMARY KEY project_code CHAR(4)
project_title VARCHAR(45)
first_name VARCHAR(45)

last_name VARCHAR(45) project_budget DECIMAL(5,2)

```
1    create table Project (project_num INT NOT NULL PRIMARY KEY, project_code CHAR(4),
2    project_title VARCHAR(45), first_name VARCHAR(45), last_name VARCHAR(45), project_budget DECIMAL(5,2));
```

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

```
1 •  alter table Project modify column project_num int auto_increment;
2 •  alter table Project auto_increment=10;
3
```



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

```
1 •  alter table Project modify column project_budget decimal(10,2);
```

5. **Insert following values into the Project table.**
DO NOT insert project_num. Auto_increment should start from 10

project_code	project_title	first_name	last_name	project_budget
PC01	DIA	John	Smith	10000.99
PC02	CHF	Tim	Cook	12000.50
PC03	AST	Rhonda	Smith	8000.40

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

100% 54:6

Action Output

	Time	Action
1	14:45:34	insert into Project (project_code, project_title, first_name, last_name, project_budget) values ('PC01', 'DIA', 'John', 'Smith', '10000.99')
2	14:45:34	insert into Project (project_code, project_title, first_name, last_name, project_budget) values ('PC02', 'CHF', 'Tim', 'Cook', '12000.50')
3	14:45:34	insert into Project (project_code, project_title, first_name, last_name, project_budget) values ('PC03', 'AST', 'Rhonda', 'Smith', '8000.40')

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

employee_num INT PRIMARY KEY AUTO_INCREMENT job_id INT NOT NULL
job_desc VARCHAR(40)
emp_pay DECIMAL (10,2)

```
create table PayRoll (employee_num INT PRIMARY KEY AUTO_INCREMENT,
job_id INT NOT NULL, job_desc VARCHAR(40), emp_pay DECIMAL(10,2));
```

100% 67:2

Action Output

	Time	Action
1	14:46:00	create table PayRoll (employee_num INT PRIMARY KEY AUTO_INCREMENT, job_id INT NOT NULL, job_c

7. **Alter PayRoll table with the following, make sure to write each script separately.**

   i. **Add constraint on emp_pay so that only value greater than 10,000 can be inserted.**
   ii. **Add constraint on job_desc so that default value set to 'Data Analyst'.**
   iii. **Add column pay_date (DATE) after job_desc.**

```
alter table PayRoll add constraint emp_pay check (emp_pay > 10000);
alter table PayRoll alter job_desc set default 'Data Analyst';
alter table PayRoll add column pay_date DATE;
```

100% 1:4

Action Output

	Time	Action
1	14:47:51	alter table PayRoll add constraint emp_pay check (emp_pay > 10000)
2	14:47:51	alter table PayRoll alter job_desc set default 'Data Analyst'
3	14:47:51	alter table PayRoll add column pay_date DATE

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);
```

100% 1:2

Action Output

	Time	Action
1	14:48:10	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.**

job_id	pay_date	emp_pay
10	current date	12000.99
11	current date	14000.99
12	current date	16000.99

```
1 •  insert into PayRoll (job_id, pay_date, emp_pay)
2    values(10, '2022-03-01', 12000.99);
3 •  insert into PayRoll (job_id, pay_date, emp_pay)
4    values(11, '2022-03-01', 14000.99);
5 •  insert into PayRoll (job_id, pay_date, emp_pay)
6    values(12, '2022-03-01', 16000.99);
7
```

100% 36:6

Action Output

	Time	Action
1	14:48:47	insert into PayRoll (job_id, pay_date, emp_pay) values(10, '2022-03-01', 12000.99)
2	14:48:47	insert into PayRoll (job_id, pay_date, emp_pay) values(11, '2022-03-01', 14000.99)
3	14:48:47	insert into PayRoll (job_id, pay_date, emp_pay) values(12, '2022-03-01', 16000.99)

10. **Update emp_pay in PayRoll table for employee_num = 2 with 10% emp_pay increase.**

```
1 •  update PayRoll set emp_pay = emp_pay*1.10 where employee_num = 2;
2
```

100% 66:1

Action Output

	Time	Action
⚠ 1	14:49:19	update PayRoll set emp_pay = emp_pay*1.10 where employee_num = 2

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

```
1 •  create table Project_backup as (select * from Project where last_name = 'Smith');
```

100% 82:1

Action Output

	Time	Action
1	14:49:38	create table Project_backup as (select * from Project where last_name = 'Smith')

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.**

```
1    create view PayRoll_View as select job_id, job_desc, pay_date from PayRoll where job_id >10;
2
```

100% 1:2

Action Output

	Time	Action
1	14:49:55	create view PayRoll_View as select job_id, job_desc, pay_date from PayRoll where job_id >10

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

```
1 •  create index pay_date_index on PayRoll (pay_date);
2
```

100% 1:2

Action Output

	Time	Action
1	14:49:55	create view PayRoll_View as select job_id, job_desc, pay_date from PayRoll where job_id >10
2	14:50:09	create index pay_date_index on PayRoll (pay_date)

14. **Delete all data from project_backup table but keep the table structure.**

```
1 •  truncate table Project_backup;
2
```

100% 1:2

Action Output

	Time	Action
1	14:50:33	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?**

This error message appeared because we tried to delete/modify a value that was used in a foreign key constraint (job_id in PayRoll references project_num in Project). This is because if we modified project_num in the Project table, the job_id column values in the PayRoll table would also be affected. In order to make changes to project_num, we must first drop the foreign key relationship between these two entities.

```
1 •  delete from Project where project_num = 10;
2
```

100% 1:2

Action Output

	Time	Action	Response
1	14:50:47	delete from Project where project_num = 10	Error Code: 1451. Cannot

16. **Solve the question 15 above without error, i.e. write a script how you can delete.**

```
1    alter table PayRoll drop foreign key payroll_ibfk_1;
2 •  delete from Project where project_num = 10;
```

100% 44:2

Action Output

	Time	Action	Response
1	15:08:17	alter ta...	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0
2	15:08:37	alter ta...	Error Code: 1091. Can't DROP 'payroll_ibfk_1'; check that column/key exists
3	15:08:37	delete f...	1 row(s) affected