Codec Guide

DBMS ASSIGMENT-1

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IT-A

Abstract:

The goal of this project is to develop an ER model for a database that helps students become successful software developers by providing them with suitable hobbies. The model will include entities such as students, hobbies, skills, projects and will use associative entities to connect them. The resulting database will allow students to explore and select hobbies that align with their interests and will help them develop skills that are relevant to software development. The database will also provide information on projects that can further enhance their skills and knowledge in the field. The project will involve designing the ER model, creating the necessary tables, and writing DML queries to insert and retrieve data from the database.

Requirements:

Tables that I have identified are :Student,Hobby,Skill,Project,Student_Hobby,Student_Skill,Student_project,skill_hobby.

1.Student Table:

ATTRIBUTE	DOMAIN	CONSTRAINT
Student_id	NUMBER	Primary Key
Student_name	VARCHAR	Not Null
Student_email	VARCHAR	
Student_phone	VARCHAR	

2.Hobby Table:

ATTRIBUTE	DOMAIN	CONSTRAINT
Hobby_id	NUMBER	Primary Key
Hobby_name	VARCHAR	
Hobby_description	VARCHAR	

3.Skill_hobby Table:

ATTRIBUTE	DOMAIN	CONSTRAINT
Skill_id	NUMBER	Foreign key
hobby_id	NUMBER	foreign key

4.Skill Table:

ATTRIBUTE	DOMAIN	CONSTRAINT
Skill_id	NUMBER	Primary Key
Skill_Name	VARCHAR	
Skill_Description	VARCHAR	

5.Project Table:

ATTRIBUTE	DOMAIN	CONSTRAINT
Project_ID	NUMBER	Primary Key
Project_Description	VARCHAR	
Start_Date	DATE	
End_Date	DATE	
Status	VARCHAR	
Project_Name	VARCHAR	

6.Student_Hobby Table:

ATTRIBUTE	DOMAIN	CONSTRAINT
Student_id	NUMBER	Foreign Key
Hobby_id	NUMBER	Foreign Key

7.Student_Skill Table:

ATTRIBUTE	DOMAIN	CONSTRAINT
Student_id	NUMBER	Foreign Key
Skill_id	NUMBER	Foreign Key
Proficiency	VARCHAR	

8.Student_Project Table:

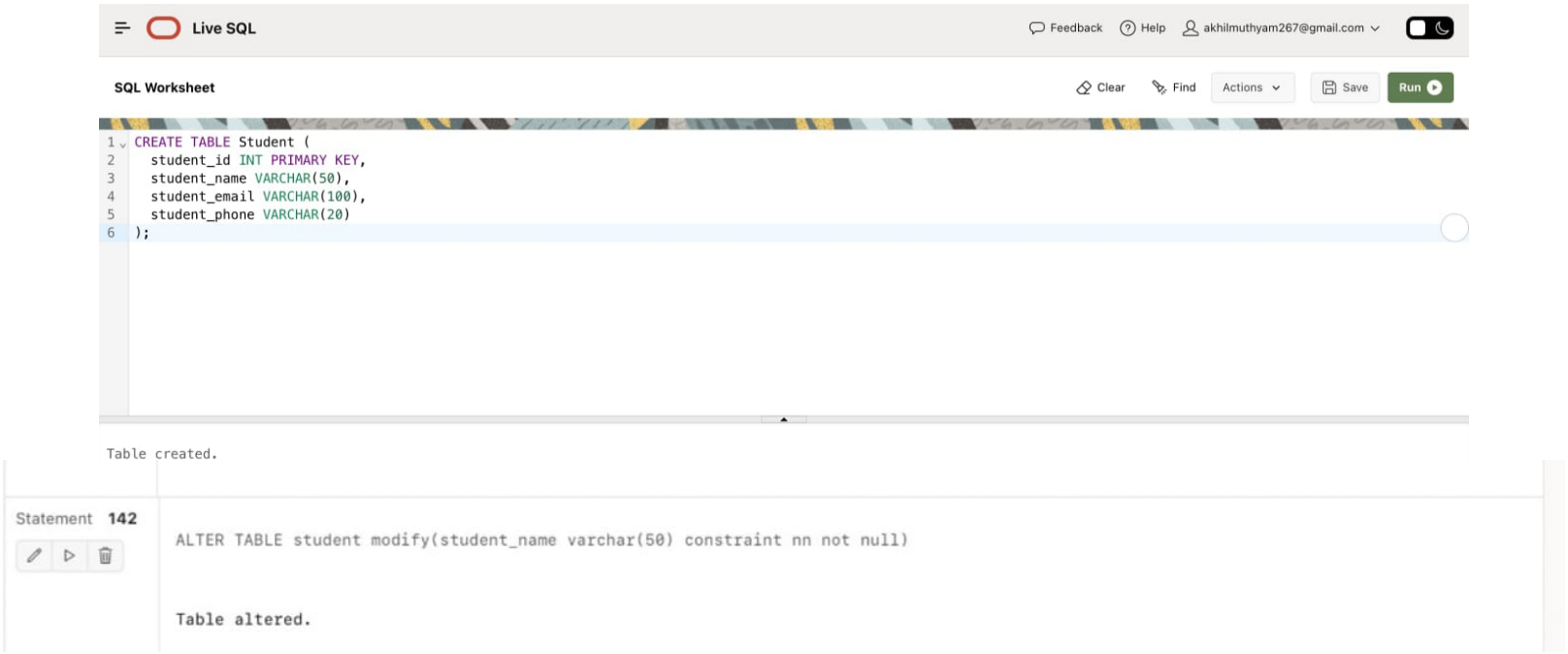
ATTRIBUTE	DOMAIN	CONSTRAINT
Student_id	NUMBER	Foreign Key
project_id	NUMBER	Foreign Key
Role	VARCHAR	

The relations are many to many relations —ER DIAGRAM

DDL COMMANDS :

1.creating table for **student** with constraints :

QUERY : create table student(
2 student_id int PRIMARY KEY ,
3 student_name VARCHAR(50) ,
4 student_email VARCHAR(100),
5 student_phone VARCHAR(20));



SQL Worksheet

```
1  desc student;
```

TABLE STUDENT

Column	Null?	Type
STUDENT_ID	NOT NULL	NUMBER
STUDENT_NAME	NOT NULL	VARCHAR2(50)
STUDENT_EMAIL	-	VARCHAR2(100)
STUDENT_PHONE	-	VARCHAR2(20)

Download CSV

4 rows selected.

2.creating **hobby** table :

QUERY: create table hobby (
2 hobby_id int primary key,
3 hobby_name varchar(50),
4 hobby_description varchar(200));

SQL Worksheet

```
1  CREATE TABLE Hobby (
2    hobby_id INT PRIMARY KEY,
3    hobby_name VARCHAR(50),
4    hobby_description VARCHAR(200)
5  );
```

Table created.

3.creating **skill** table :

QUERY: create table skill(
2 skill_id int primary key ,
3 skill_name varchar(50),
4 skill_description varchar(200));

SQL Worksheet

```
1  CREATE TABLE Skill (
2    skill_id INT PRIMARY KEY,
3    skill_name VARCHAR(50),
4    skill_description VARCHAR(200)
5  );
```

```
Table created.
```

4.creating **project** table :

QUERY: create table project(
2 project_id int primary key ,
3 project_name varchar(50),
4 project_description varchar(20),
5 start_date DATE,
6 end_date DATE,
7 status varchar(20));

SQL Worksheet

```
1  CREATE TABLE Project (
2    project_id INT PRIMARY KEY,
3    project_name VARCHAR(50),
4    project_description VARCHAR(200),
5    start_date DATE,
6    end_date DATE,
7    status VARCHAR(20)
8  );
```

```
Table created.
```

5.creating **student_skill** table:

QUERY: create table student_skill (
2 student_id int,
3 skill_id int,
4 proficiency varchar(20),
5 foreign key (student_id) references student(student_id),
6 foreign key (skill_id) references skill(skill_id),
7 primary key (student_id,skill_id));

SQL Worksheet

```
1  CREATE TABLE Student_Skill (
2    student_id INT,
3    skill_id INT,
4    proficiency VARCHAR(20),
5    FOREIGN KEY (student_id) REFERENCES Student(student_id),
6    FOREIGN KEY (skill_id) REFERENCES Skill(skill_id),
7    PRIMARY KEY (student_id, skill_id)
8  );
```

```
Table created.
```

6.creating **student_hobby** table:

QUERY: create table student_hobby(
2 student_id int,
3 hobby_id int,
4 foreign key (student_id) references student(student_id),
5 foreign key (hobby_id) references hobby(hobby_id),
6 primary key (student_id,hobby_id));

SQL Worksheet

```
1  CREATE TABLE Student_Hobby (
2    student_id INT,
3    hobby_id INT,
4    FOREIGN KEY (student_id) REFERENCES Student(student_id),
5    FOREIGN KEY (hobby_id) REFERENCES Hobby(hobby_id),
6    PRIMARY KEY (student_id, hobby_id)
7  );
```

```
Table created.
```

7.creating **student_project** table:

QUERY: create table student_project(
2 student_id int,
3 project_id int,
4 role varchar(50),
5 foreign key (student_id) references student(student_id),
6 foreign key (project_id) references project(project_id),
7 primary key (student_id,project_id));

SQL Worksheet

```
1  CREATE TABLE Student_Project (
2    student_id INT,
3    project_id INT,
4    role VARCHAR(50),
5    FOREIGN KEY (student_id) REFERENCES Student(student_id),
6    FOREIGN KEY (project_id) REFERENCES Project(project_id),
7    PRIMARY KEY (student_id, project_id)
8  );
```

Table created.

8.creating **skill_hobby** table:

QUERY: create table skill_hobby(
2 skill_id int,
3 hobby_id int,
4 foreign key (skill_id) references skill(skill_id),
5 foreign key (hobby_id) references hobby(hobby_id),
6 primary key (skill_id,project_id));

SQL Worksheet

```
1  create table skill_hobby (
2      skill_id int,
3      hobby_id int,
4      foreign key (skill_id) references skill(skill_id),
5      foreign key (hobby_id) references hobby(hobby_id),
6      primary key(skill_id,hobby_id));
```

Table created.

DML COMMANDS:

1.insert values into **student**:

QUERY: insert into student(student_id,student_name,student_email,student_phone)
2 values(20,’hemanth’,’**hemanth122@gmail.com**','8312877721');

SQL Worksheet

```
1 INSERT INTO Student (student_id, student_name,student_email, student_phone)
2 VALUES (20,'hemanth','hemanth1222@gmail.com','8312877721');
3
```

1 row(s) inserted.

SQL Worksheet

```
1 select * from student;
2
```

STUDENT_ID	STUDENT_NAME	STUDENT_EMAIL	STUDENT_PHONE
45	sharma	rohit45@gmail.com	9848100223
20	hemanth	hemanth1222@gmail.com	8312877721
5	akhil	akhil267@gmail.com	8712356726
333	gayle	gaylechris@gmail.com	9848123456
18	virat	virat18@gmail.com	9848167890

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2.insert values into **hobby:**

QUERY:insert into hobby(hobby_id,hobby_name,hobby_description)
2 values (2001,’Photography’,’Capturing moments with a camera’);

SQL Worksheet

```
1  INSERT INTO Hobby (hobby_id, hobby_name, hobby_description)
2  VALUES (2001, 'Photography', 'Capturing moments with a camera');
3
4
```

1 row(s) inserted.

SQL Worksheet

```
1  select * from hobby;
```

HOBBY_ID	HOBBY_NAME	HOBBY_DESCRIPTION
2001	Photography	Capturing moments with a camera
3	Painting	Expressing creativity through art
2002	Hiking	Exploring nature on foot
2003	Cooking	Preparing delicious meals for friends and family
2023	Listening to music	Playing an instrument that can be a great mood enhancer

Download CSV

5 rows selected.

3.insert values into **skill**:

QUERY: insert into skill(skill_id,skill_name,skill_description)
2 values (199,’Graphic Design’,’Creating visual content to communicate information’);

SQL Worksheet

```
1  INSERT INTO Skill (skill_id, skill_name, skill_description)
2  VALUES (199, 'Graphic Design', 'Creating visual content to communicate information');
3
4
5
6
7
```

1 row(s) inserted.

SQL Worksheet

Clear Find

```
1  select * from skill;
```

SKILL_ID	SKILL_NAME	SKILL_DESCRIPTION
99	Programming	The art of writing computer programs
199	Graphic Design	Creating visual content to communicate information
111	Public Speaking	Effective communication of ideas to an audience
108	Project Management	Planning, organizing, and managing resources to complete a specific project
118	Teamwork	Collaboration and cooperation within a group to achieve a common goal

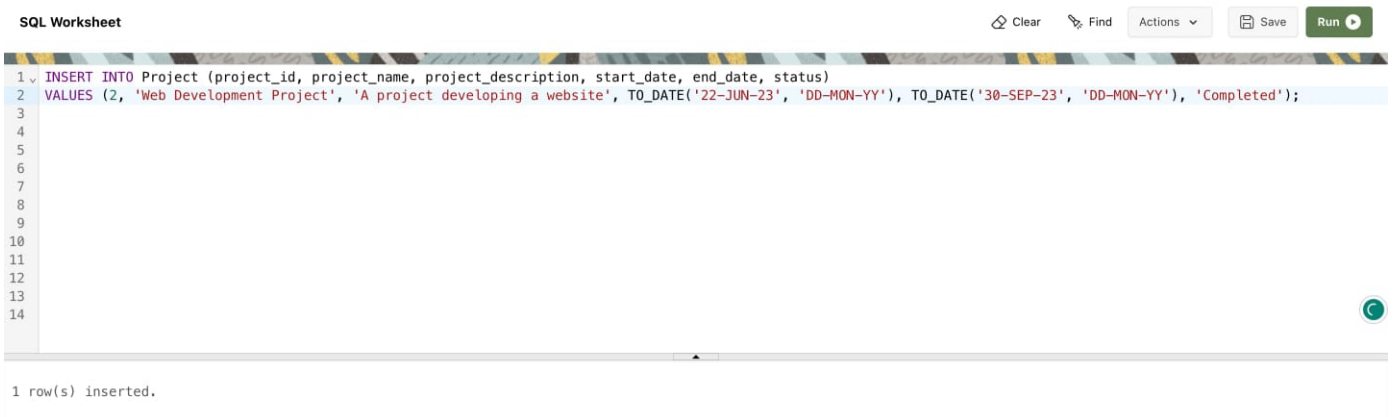
Download CSV

5 rows selected.

4.insert values into **project:**

QUERY:

insert into project(project_id,project_name,project_description,start_date,end_date)
2 values (2,'Web Development Project','A project developing a website',TO_DATE('22-JUN-23','DD-MON-YY'),TO_DATE('30-SEP-23','DD-MON-YY'),'Completed');




```
select * from project;
```

PROJECT_ID	PROJECT_NAME	PROJECT_DESCRIPTION	START_DATE	END_DATE	STATUS
1	Project 1	Description of Project 1	22-APR-23	30-APR-23	In progress
2	Web Development Project	A project developing a website	22-JUN-23	30-SEP-23	Completed
3	Machine Learning Project	A project using machine learning to predict sales	19-FEB-23	26-JUL-23	Completed
4	Data Analysis Project	A project analyzing customeer data	12-JAN-23	12-MAY-23	Completed

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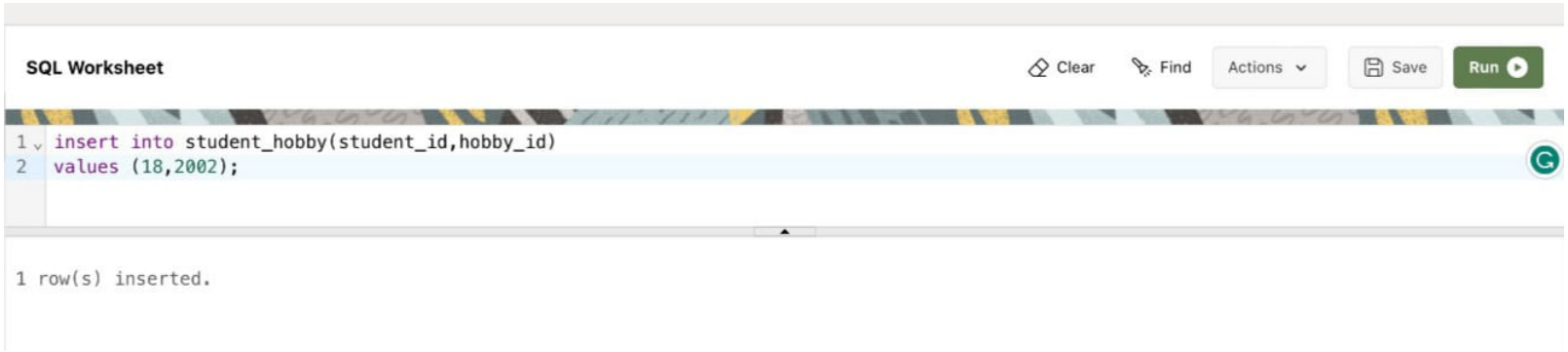
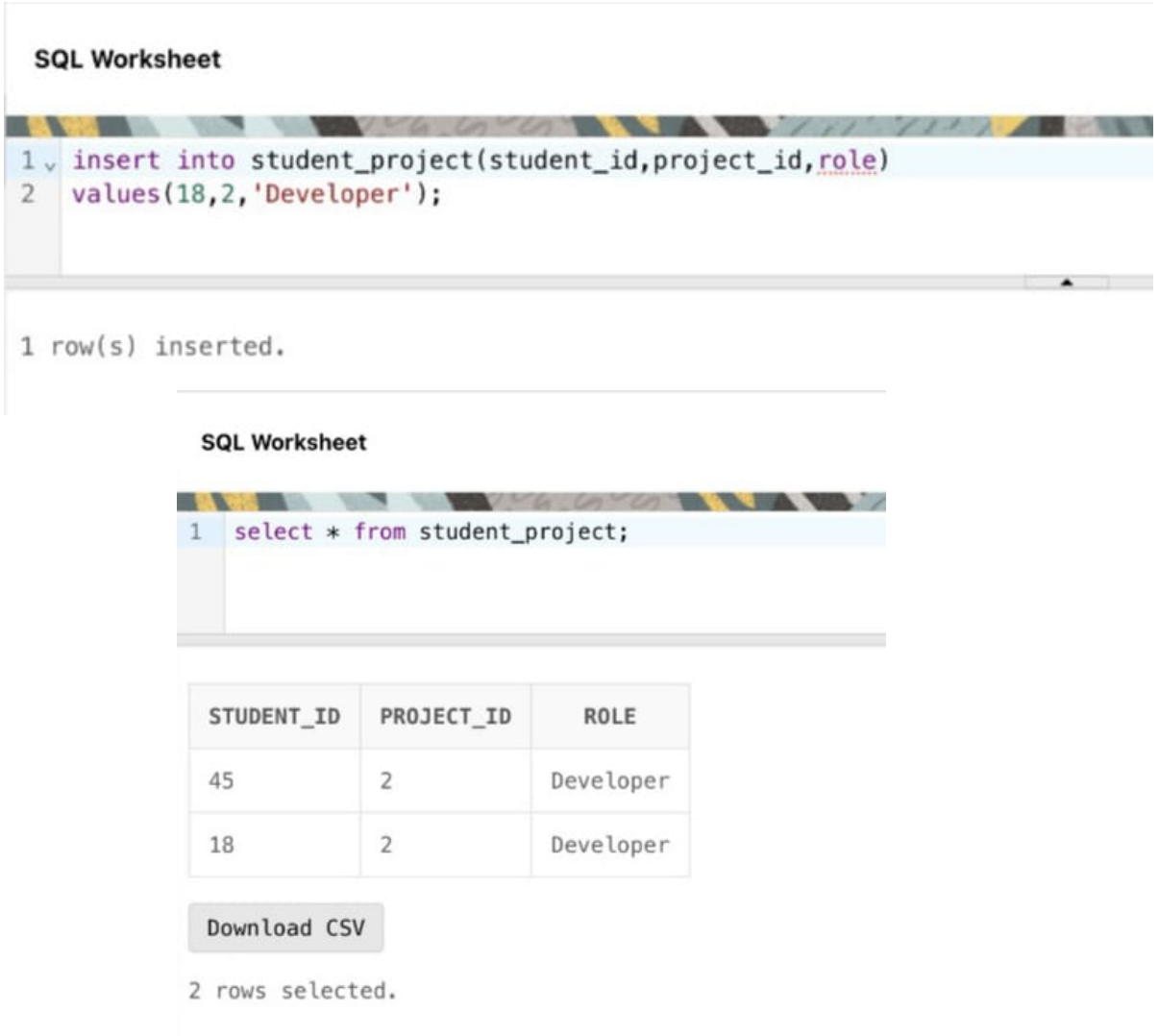
5.insert values into **student_hobby:**

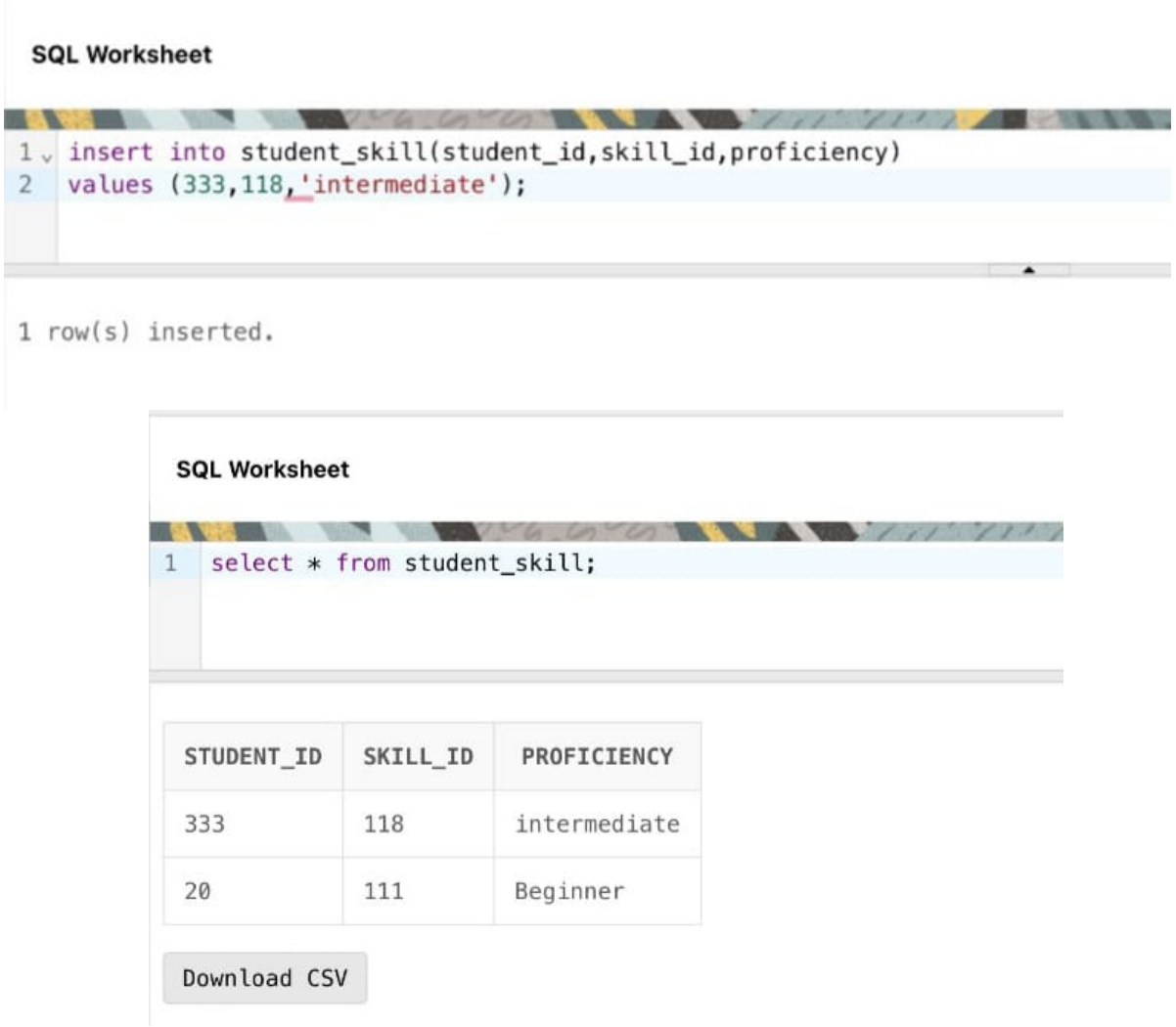
QUERY: insert into student_hobby(student_id,hobby_id)
2 values (18,2002);



6.insert values into **student_project:**
QUERY: insert into student_project(student_id,project_id,role)
2 values (18,2,'Developer');



7.insert values into **student_skill:**
QUERY: insert into student_skill(student_id,skill_id,proficiency)
2 values (333,118,'intermediate');



8.insert values into **skill_hobby:**
QUERY: insert into skill_hobby(skill_id,hobby_id)
2 values (99,2003);

SQL Worksheet

```
1 insert into skill_hobby(skill_id,hobby_id)
2     values (99,2003);
```

1 row(s) inserted.

SQL Worksheet

```
1 select * from skill_hobby;
```

SKILL_ID	HOBBY_ID
99	2003
111	2002

Download CSV

2 rows selected.