

## Part One

```
In [2]: import mysql.connector

In [3]: conn = mysql.connector.connect(
...:     host='localhost',
...:     user='cf-python',
...:     passwd='password')

In [4]: cursor = conn.cursor()

In [5]: cursor.execute("CREATE DATABASE IF NOT EXISTS task_database")

In [6]: cursor.execute("USE my_database"))
Cell In[6], line 1
    cursor.execute("USE my_database"))
                        ^
SyntaxError: unmatched ')'
```

  

```
In [7]: cursor.execute("USE my_database")

In [8]: cursor.execute('''CREATE TABLE IF NOT EXISTS Recipes(
...:     id INT PRIMARY KEY,
...:     name VARCHAR(50),
...:     ingredients VARCHAR(255),
...:     cooking_time INT,
...:     difficulty VARCHAR(20)
...: )''')

In [9]: cursor.execute('''ALTER TABLE Recipes ADD CONSTRAINT ck_difficulty_list
...:     check (difficulty in ('Easy', 'Medium', 'Intermediate', 'Hard'))''')
```

## Part Seven

```
(cf-python-base) → python-recipe-app git:(master) ipython3 exercise_1.6/recipe_mysql.py
```

```
=====
Main Menu
```

```
-----
```

What would you like to do? Pick an option:

1. Create a new recipe.
2. Search for recipes that match an ingredient.
3. Update an existing recipe.
4. Delete a recipe.

Type 'quit' to exit the program.

Enter your choice here: 1

```
=====
Create a New Recipe
```

```
-----
```

Enter the name of your recipe: Tea

Enter a list of ingredients, separated by commas: tea leaves, water, sugar

Enter how long your recipe takes to make in minutes: 3

Difficulty: Easy

Your recipe is saved to the database.

```
=====
Main Menu
```

```
-----
```

What would you like to do? Pick an option:

1. Create a new recipe.
2. Search for recipes that match an ingredient.
3. Update an existing recipe.
4. Delete a recipe.

Type 'quit' to exit the program.

Enter your choice here: 1

```
=====
Create a New Recipe
```

```
-----
```

Enter the name of your recipe: Birthday cake

Enter a list of ingredients, separated by commas: flour, sugar, water, eggs, butter, sprinkles, frosting

Enter how long your recipe takes to make in minutes: 60

Difficulty: Hard

Your recipe is saved to the database.

```
=====
Main Menu
```

```
-----
```

What would you like to do? Pick an option:

1. Create a new recipe.
2. Search for recipes that match an ingredient.
3. Update an existing recipe.
4. Delete a recipe.

Type 'quit' to exit the program.

Enter your choice here: 1

```
=====
Create a New Recipe
```

```
-----
```

Enter the name of your recipe: Peanut butter and jelly sandwich

Enter a list of ingredients, separated by commas: bread, peanut butter, jelly

Enter how long your recipe takes to make in minutes: 5

Difficulty: Easy

Your recipe is saved to the database.

```
=====
Main Menu
```

```
-----
What would you like to do? Pick an option:
```

1. Create a new recipe.
2. Search for recipes that match an ingredient.
3. Update an existing recipe.
4. Delete a recipe.

```
Type 'quit' to exit the program.
```

```
Enter your choice here: 2
```

```
=====
Search Recipes by Ingredient
```

```
-----
All Ingredients
```

- ```
-----
```
1. brownie mix
  2. water
  3. eggs
  4. oil
  5. tea leaves
  6. sugar
  7. flour
  8. butter
  9. sprinkles
  10. frosting
  11. bread
  12. peanut butter
  13. jelly

```
Select an ingredient's number: 2
```

```
The following recipes include water:
```

```
Name: Brownies
```

```
Ingredients: brownie mix, water, eggs, oil
```

```
Cooking time: 75 minutes
```

```
Difficulty: Hard
```

```
Name: Tea
```

```
Ingredients: tea leaves, water, sugar
```

```
Cooking time: 3 minutes
```

```
Difficulty: Easy
```

```
Name: Birthday cake
```

```
Ingredients: flour, sugar, water, eggs, butter, sprinkles, frosting
```

```
Cooking time: 60 minutes
```

```
Difficulty: Hard
```

```
=====
Main Menu
```

```
-----
What would you like to do? Pick an option:
```

1. Create a new recipe.
2. Search for recipes that match an ingredient.
3. Update an existing recipe.
4. Delete a recipe.

```
Type 'quit' to exit the program.
```

```
Enter your choice here: 3
```

```
=====
Update a Recipe
```

```
-----
Your Recipes
```

```
-----
ID: 2
```

```
Name: Brownies
```

```
Ingredients: brownie mix, water, eggs, oil
```

```
Cooking time: 75 minutes
```

```
Difficulty: Hard
```

```
ID: 3
```

```
Name: Tea
```

```
Ingredients: tea leaves, water, sugar
```

```
Cooking time: 3 minutes
```

```
Difficulty: Easy
```

```
ID: 4
```

```
Name: Birthday cake
```

```
Ingredients: flour, sugar, water, eggs, butter, sprinkles, frosting
```

```
Cooking time: 60 minutes
```

```
Difficulty: Hard
```

```
ID: 5
```

```
Name: Peanut butter and jelly sandwich
```

```
Ingredients: bread, peanut butter, jelly
```

```
Cooking time: 5 minutes
```

```
Difficulty: Easy
```

```
Select a recipe to update by entering its ID: 2
Would you like to update the recipe's name, ingredients, or cooking time? name
Enter a new name for the recipe: Delicious brownies
The name of your recipe has been updated.
Update saved.
```

```
=====
Main Menu
```

```
-----
What would you like to do? Pick an option:
1. Create a new recipe.
2. Search for recipes that match an ingredient.
3. Update an existing recipe.
4. Delete a recipe.
Type 'quit' to exit the program.
Enter your choice here: 3
```

```
=====
Update a Recipe
```

```
-----
Your Recipes
```

```
-----
ID: 2
Name: Delicious brownies
Ingredients: brownie mix, water, eggs, oil
Cooking time: 75 minutes
Difficulty: Hard
```

```
ID: 3
Name: Tea
Ingredients: tea leaves, water, sugar
Cooking time: 3 minutes
Difficulty: Easy
```

```
ID: 4
Name: Birthday cake
Ingredients: flour, sugar, water, eggs, butter, sprinkles, frosting
Cooking time: 60 minutes
Difficulty: Hard
```

ID: 5

Name: Peanut butter and jelly sandwich

Ingredients: bread, peanut butter, jelly

Cooking time: 7 minutes

Difficulty: Easy

Select a recipe to update by entering its ID: 5

Would you like to update the recipe's name, ingredients, or cooking time? ingredients

Enter an updated list of ingredients: peanut butter, jelly, bread

Your recipe's ingredients and difficulty have been updated.

Update saved.

```
=====
Main Menu
```

```
-----
What would you like to do? Pick an option:
```

1. Create a new recipe.
2. Search for recipes that match an ingredient.
3. Update an existing recipe.
4. Delete a recipe.

```
Type 'quit' to exit the program.
```

```
Enter your choice here: 3
```

```
=====
Update a Recipe
```

```
-----
Your Recipes
```

```
-----
ID: 2
```

```
Name: Delicious brownies
```

```
Ingredients: brownie mix, water, eggs, oil
```

```
Cooking time: 75 minutes
```

```
Difficulty: Hard
```

```
ID: 3
```

```
Name: Tea
```

```
Ingredients: tea leaves, water, sugar
```

```
Cooking time: 3 minutes
```

```
Difficulty: Easy
```

```
ID: 4
```

```
Name: Birthday cake
```

```
Ingredients: flour, sugar, water, eggs, butter, sprinkles, frosting
```

```
Cooking time: 60 minutes
```

```
Difficulty: Hard
```

```
ID: 5
```

```
Name: Peanut butter and jelly sandwich
```

```
Ingredients: bread, peanut butter, jelly
```

```
Cooking time: 5 minutes
```

```
Difficulty: Easy
```

Select a recipe to update by entering its ID: 5  
Would you like to update the recipe's name, ingredients, or cooking time? cooking time  
Enter the updated cooking time in minutes: 7  
bread, peanut butter, jelly  
Your recipe's cooking time and difficulty have been updated.  
Update saved.

=====

Main Menu

-----

What would you like to do? Pick an option:

1. Create a new recipe.
2. Search for recipes that match an ingredient.
3. Update an existing recipe.
4. Delete a recipe.

Type 'quit' to exit the program.  
Enter your choice here: 4

=====

Delete a Recipe

-----

Your Recipes

-----

ID: 2

Name: Delicious brownies  
Ingredients: brownie mix, water, eggs, oil  
Cooking time: 75 minutes  
Difficulty: Hard

ID: 3

Name: Tea  
Ingredients: tea leaves, water, sugar  
Cooking time: 3 minutes  
Difficulty: Easy

ID: 4

Name: Birthday cake  
Ingredients: flour, sugar, water, eggs, butter, sprinkles, frosting  
Cooking time: 60 minutes  
Difficulty: Hard



ID: 5

Name: Peanut butter and jelly sandwich

Ingredients: bread, peanut butter, jelly

Cooking time: 7 minutes

Difficulty: Easy

Select a recipe to delete by entering its ID: 3

The selected recipe has been deleted.

=====

Main Menu

-----

What would you like to do? Pick an option:

1. Create a new recipe.
2. Search for recipes that match an ingredient.
3. Update an existing recipe.
4. Delete a recipe.

Type 'quit' to exit the program.

Enter your choice here: quit