PYTHON CODE:

```
import mysql.connector


# Connect to MySQL database
def connect_db():
    return mysql.connector.connect(
        host="localhost",
        user="root1",
        password="Lakshita21",
        database="student_management"
    )


# User registration
def register_user(username, password):
    db = connect_db()
    cursor = db.cursor()
    try:
        cursor.execute("INSERT INTO users (username, password) VALUES (%s,
%s)", (username, password))
        db.commit()
        print("User registered successfully!")
    except mysql.connector.IntegrityError:
        print("Username already exists!")
    finally:
        cursor.close()
        db.close()


# User login
def login_user(username, password):
    db = connect_db()
    cursor = db.cursor()
    cursor.execute("SELECT password FROM users WHERE username=%s",
(username,))
    result = cursor.fetchone()
    cursor.close()
    db.close()

    if result and result[0] == password:
        print("Login successful!")
        return True
    else:
        print("Invalid username or password.")
        return False


# Create a new student
def create_student(name, age, grade):
    db = connect_db()
    cursor = db.cursor()
```

```
    cursor.execute("INSERT INTO students (name, age, grade) VALUES (%s, %s, %s)", (name, age, grade))
    db.commit()
    cursor.close()
    db.close()
    print("Student added successfully!")


# Read all students
def read_students():
    db = connect_db()
    cursor = db.cursor()
    cursor.execute("SELECT * FROM students")
    results = cursor.fetchall()
    cursor.close()
    db.close()

    if results:
        print("ID\tName\tAge\tGrade")
        for row in results:
            print(f"{row[0]}\t{row[1]}\t{row[2]}\t{row[3]}")
    else:
        print("No students found.")


# Update a student's information
def update_student(student_id, name, age, grade):
    db = connect_db()
    cursor = db.cursor()
    cursor.execute("UPDATE students SET name=%s, age=%s, grade=%s WHERE id=%s", (name, age, grade, student_id))
    db.commit()
    cursor.close()
    db.close()
    print("Student updated successfully!")


# Delete a student
def delete_student(student_id):
    db = connect_db()
    cursor = db.cursor()
    cursor.execute("DELETE FROM students WHERE id=%s", (student_id,))
    db.commit()
    cursor.close()
    db.close()
    print("Student deleted successfully!")


# Main menu
def main():
    while True:
        print("\n--- Student Management System ---")
        print("1. Register")
```

```
        print("2. Login")
        print("3. Exit")

        choice = input("Enter your choice: ")

        if choice == '1':
            username = input("Enter username: ")
            password = input("Enter password: ")
            register_user(username, password)
        elif choice == '2':
            username = input("Enter username: ")
            password = input("Enter password: ")
            if login_user(username, password):
                # If login is successful, show student management options
                while True:
                    print("\n--- Student Management ---")
                    print("1. Add Student")
                    print("2. View Students")
                    print("3. Update Student")
                    print("4. Delete Student")
                    print("5. Logout")

                    student_choice = input("Enter your choice: ")

                    if student_choice == '1':
                        name = input("Enter name: ")
                        age = int(input("Enter age: "))
                        grade = input("Enter grade: ")
                        create_student(name, age, grade)
                    elif student_choice == '2':
                        read_students()
                    elif student_choice == '3':
                        student_id = int(input("Enter student ID to update:
"))
                        name = input("Enter new name: ")
                        age = int(input("Enter new age: "))
                        grade = input("Enter new grade: ")
                        update_student(student_id, name, age, grade)
                    elif student_choice == '4':
                        student_id = int(input("Enter student ID to delete:
"))
                        delete_student(student_id)
                    elif student_choice == '5':
                        print("Logging out...")
                        break
                    else:
                        print("Invalid choice. Please try again.")
        elif choice == '3':
            print("Exiting...")
            break
        else:
            print("Invalid choice. Please try again.")
```

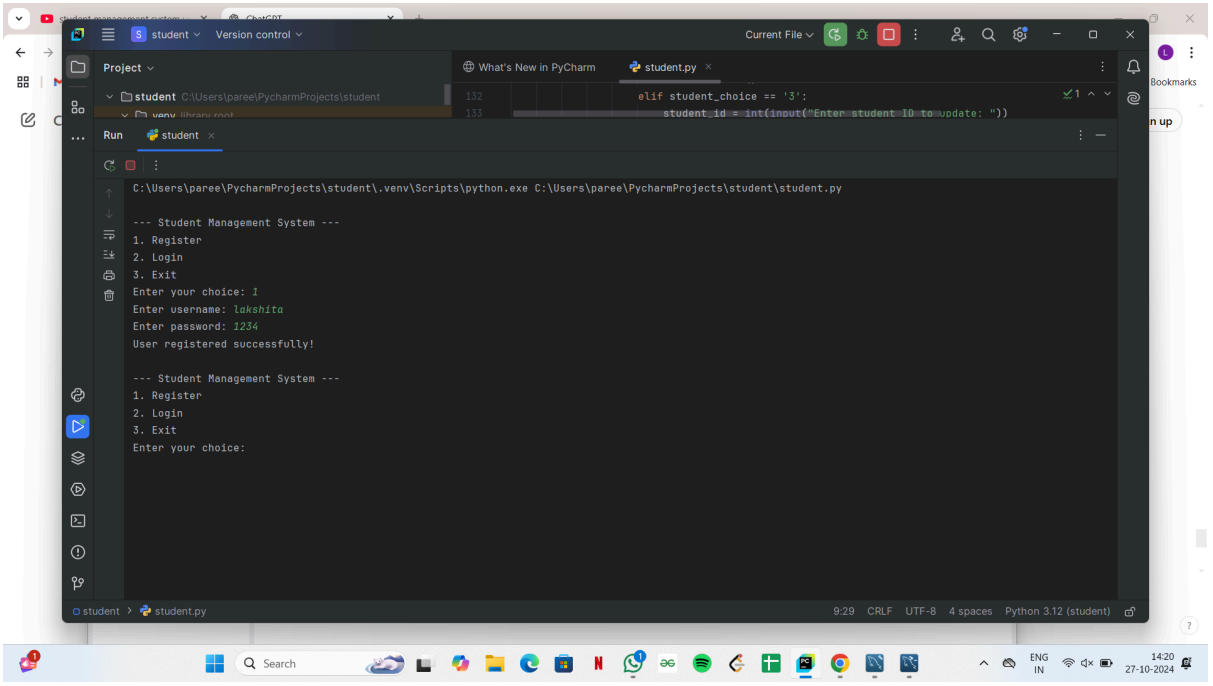
```
if __name__ == "__main__":
    main()
```

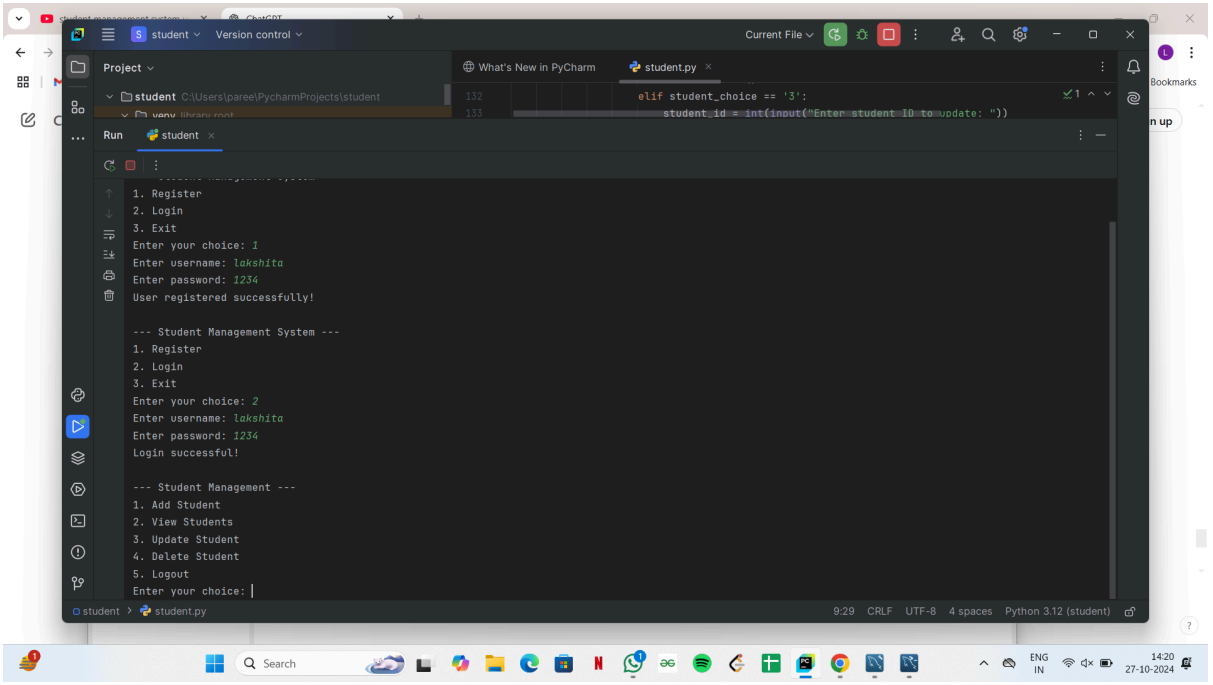
DATABASE :

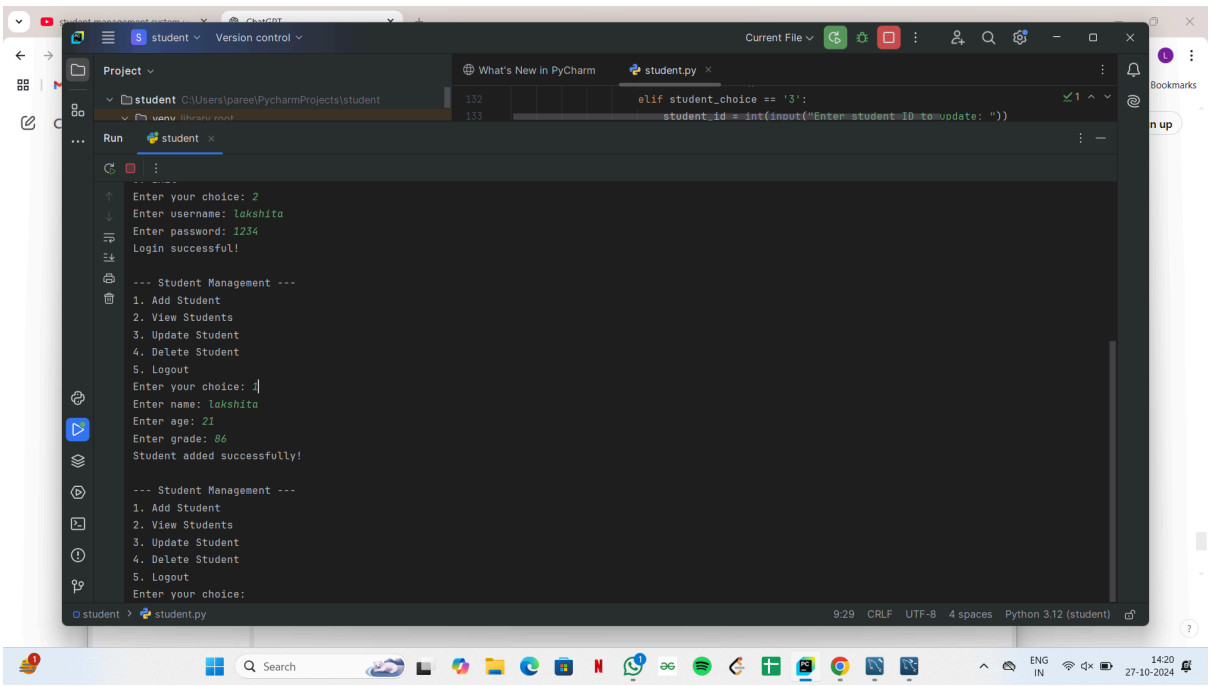
```
CREATE DATABASE student_management;
USE student_management;
CREATE TABLE users (
    id INT AUTO_INCREMENT PRIMARY KEY,
    username VARCHAR(50) UNIQUE,
    password VARCHAR(255)
);
CREATE TABLE students (
    id INT AUTO_INCREMENT PRIMARY KEY,
    name VARCHAR(100),
    age INT,
    grade VARCHAR(10)
);
SHOW TABLES ;
SELECT * FROM students;
SELECT * FROM users;
```

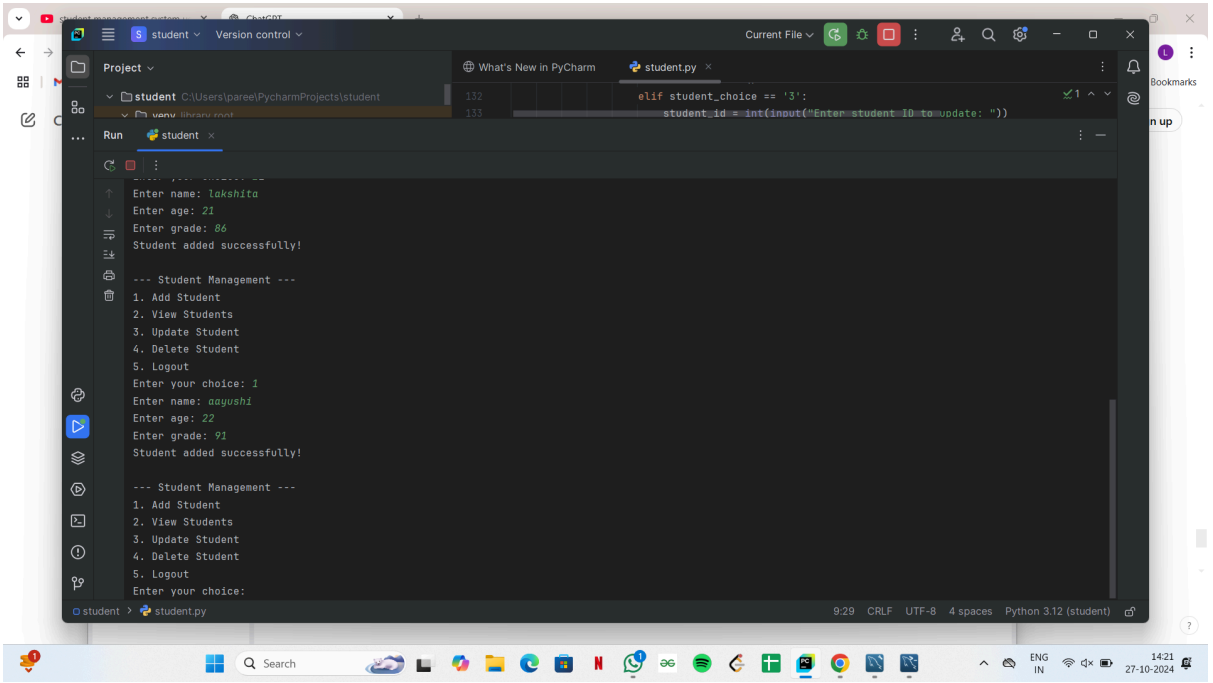
SCREENSHOTS:

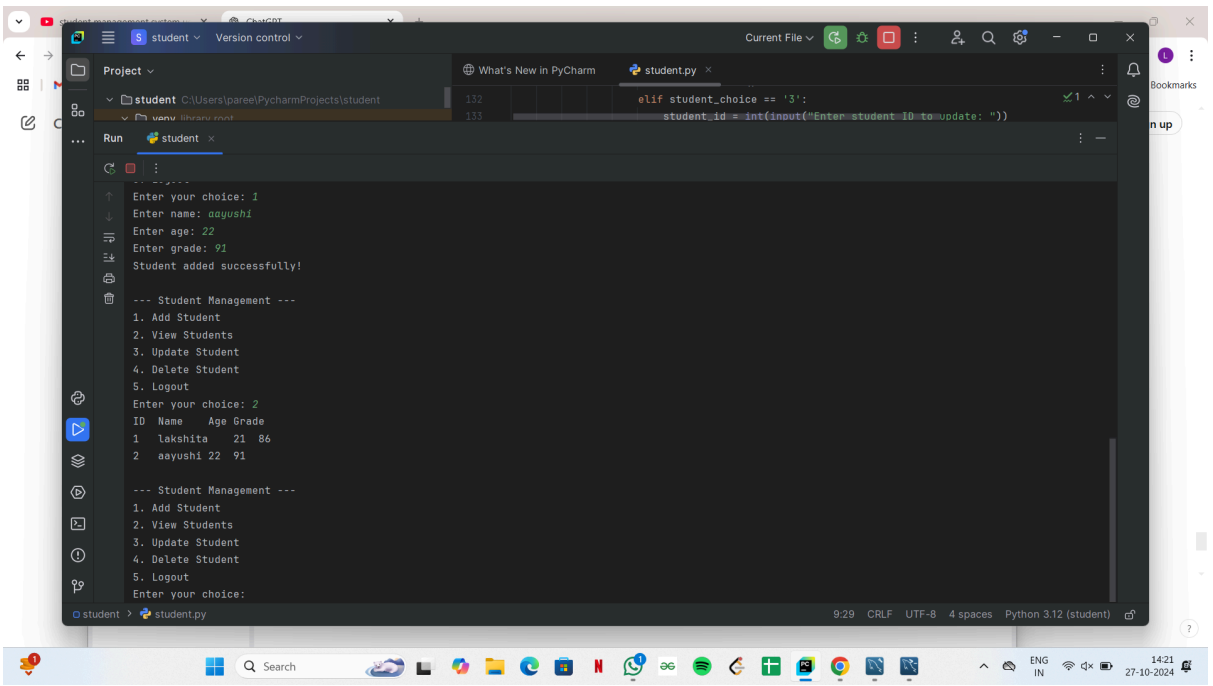

Run
student
C:\Users\paree\PycharmProjects\student\.venv\Scripts\python.exe C:\Users\paree\PycharmProjects\student\student.py
--- Student Management System ---
1. Register
2. Login
3. Exit
Enter your choice:

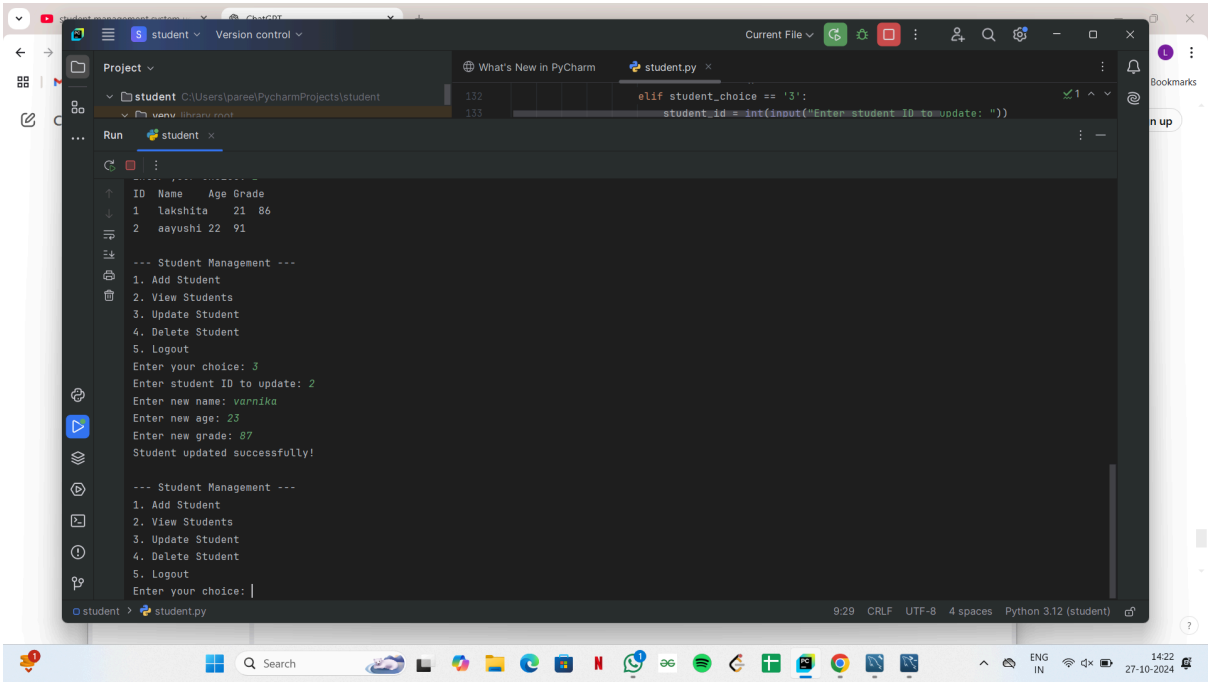

student
Version control
Current File
Project
What's New in PyCharm
student.py
elif student_choice == '3':
student_id = int(input("Enter student ID to update: "))
Run
student
C:\Users\paree\PycharmProjects\student\.venv\Scripts\python.exe C:\Users\paree\PycharmProjects\student\student.py
--- Student Management System ---
1. Register
2. Login
3. Exit
Enter your choice: 1
Enter username: lakshita
Enter password: 1234
User registered successfully!
--- Student Management System ---
1. Register
2. Login
3. Exit
Enter your choice:
9:29
CRLF
UTF-8
4 spaces
Python 3.12 (student)
Search
ENG
IN
14:20
27-10-2024

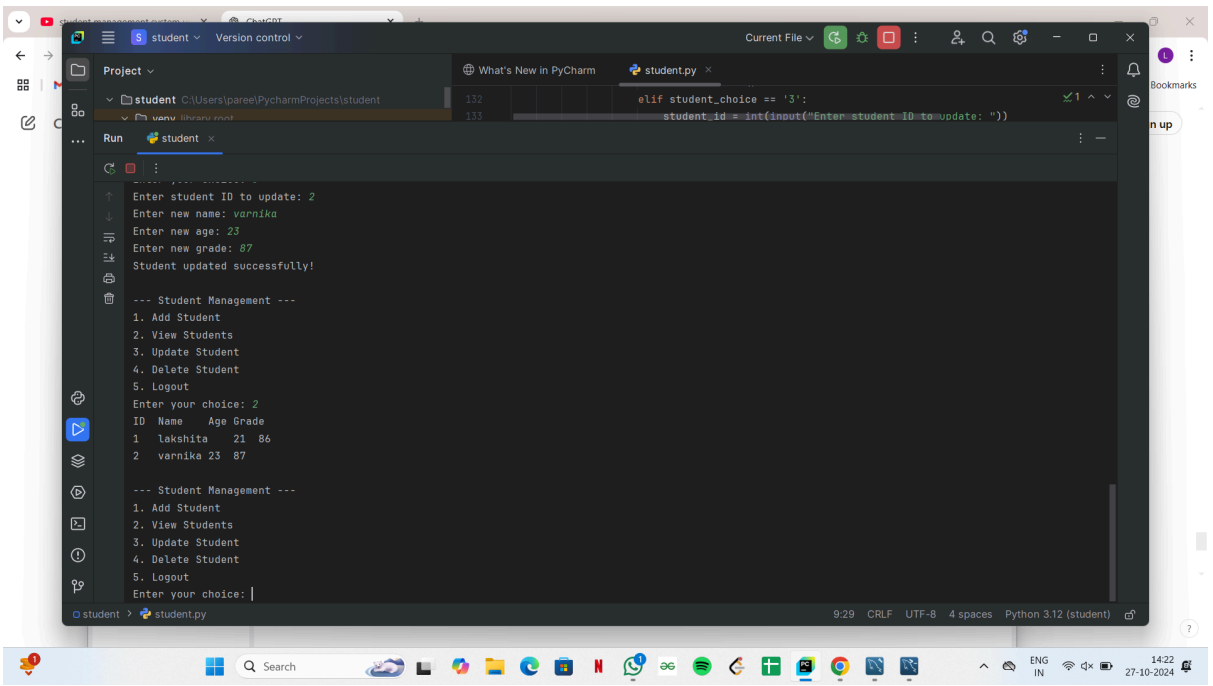

student
Version control
Current File
Project
student C:\Users\pareet\PycharmProjects\student
What's New in PyCharm
student.py
elif student_choice == '3':
student_id = int(input("Enter student ID to update: "))
Run
student
1. Register
2. Login
3. Exit
Enter your choice: 1
Enter username: lakshita
Enter password: 1234
User registered successfully!
--- Student Management System ---
1. Register
2. Login
3. Exit
Enter your choice: 2
Enter username: lakshita
Enter password: 1234
Login successful!
--- Student Management ---
1. Add Student
2. View Students
3. Update Student
4. Delete Student
5. Logout
Enter your choice:
student
student.py
9:29
CRLF
UTF-8
4 spaces
Python 3.12 (student)
Search
ENG
IN
14:20
27-10-2024

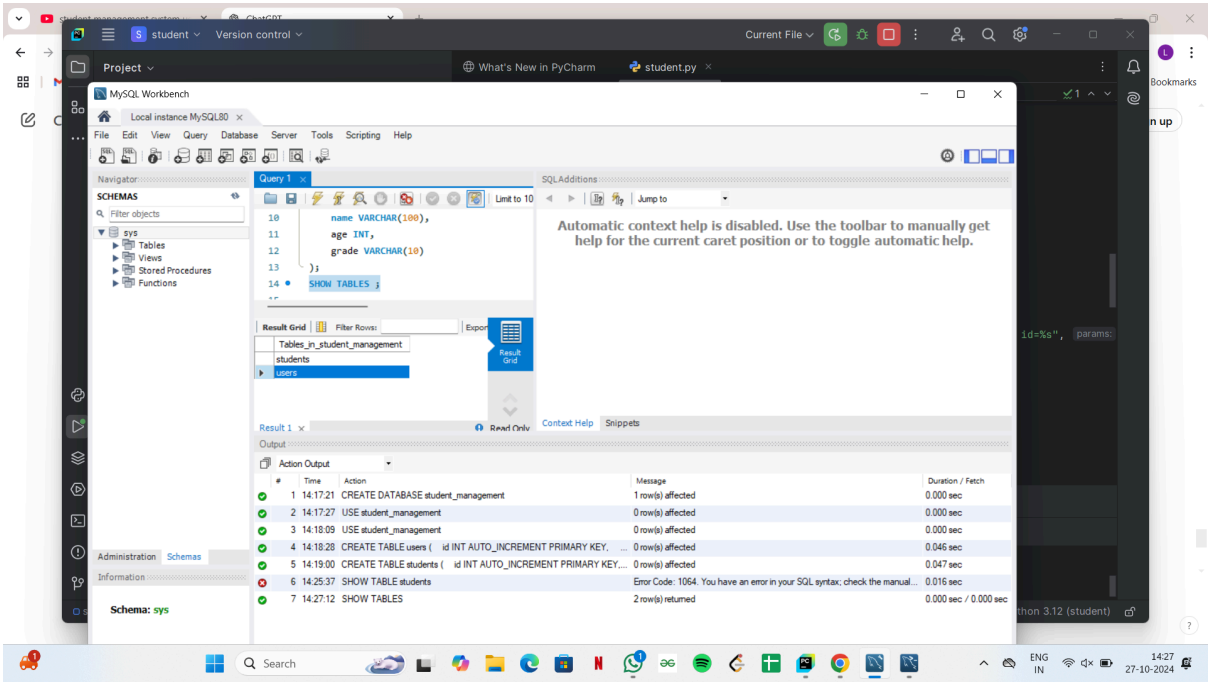

student
Version control
Current File
Project
student C:\Users\pareet\PycharmProjects\student
What's New in PyCharm
student.py
elif student_choice == '3':
student_id = int(input("Enter student ID to update: "))
Run
student
Enter your choice: 2
Enter username: lakshita
Enter password: 1234
Login successful!
--- Student Management ---
1. Add Student
2. View Students
3. Update Student
4. Delete Student
5. Logout
Enter your choice: 1
Enter name: lakshita
Enter age: 21
Enter grade: 86
Student added successfully!
--- Student Management ---
1. Add Student
2. View Students
3. Update Student
4. Delete Student
5. Logout
Enter your choice:
student
student.py
9:29
CRLF
UTF-8
4 spaces
Python 3.12 (student)
Search
ENG
IN
14:20
27-10-2024

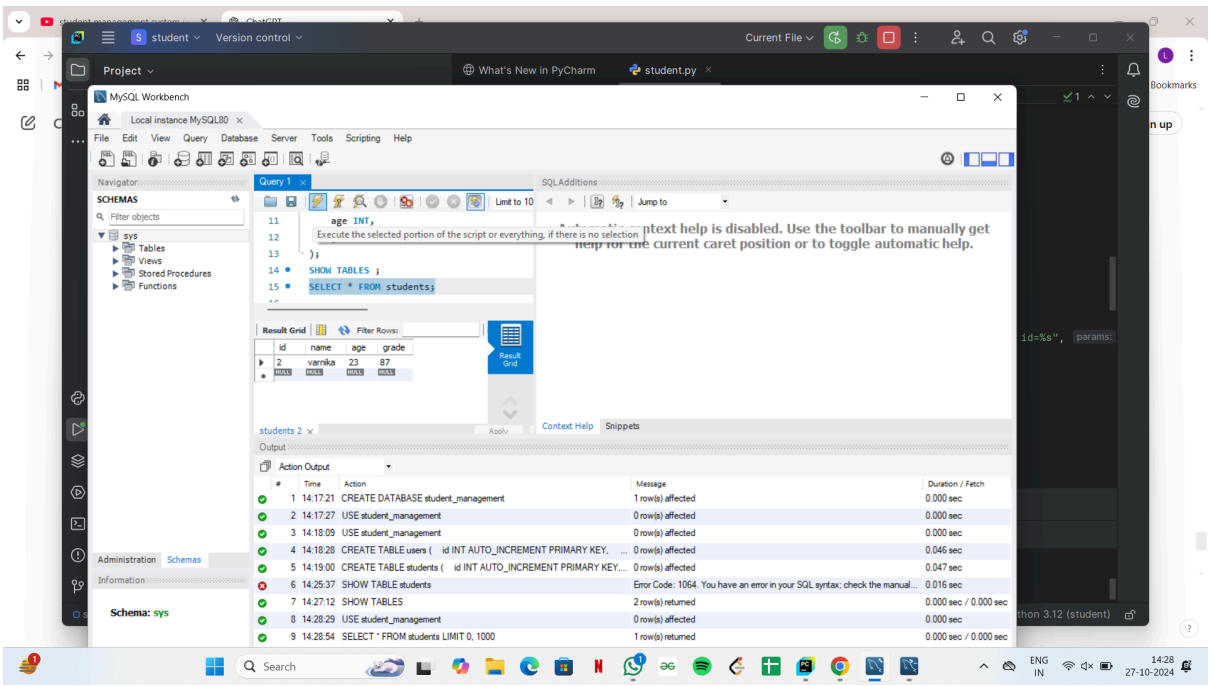

student
Version control
Current File
Project
student C:\Users\pareet\PycharmProjects\student
What's New in PyCharm
student.py
elif student_choice == '3':
student_id = int(input("Enter student ID to update: "))
Run
student
Enter name: lakshita
Enter age: 21
Enter grade: 86
Student added successfully!
--- Student Management ---
1. Add Student
2. View Students
3. Update Student
4. Delete Student
5. Logout
Enter your choice: 1
Enter name: aayushi
Enter age: 22
Enter grade: 91
Student added successfully!
--- Student Management ---
1. Add Student
2. View Students
3. Update Student
4. Delete Student
5. Logout
Enter your choice:
student > student.py
9:29 CRLF UTF-8 4 spaces Python 3.12 (student)
Search
ENG IN
14:21 27-10-2024

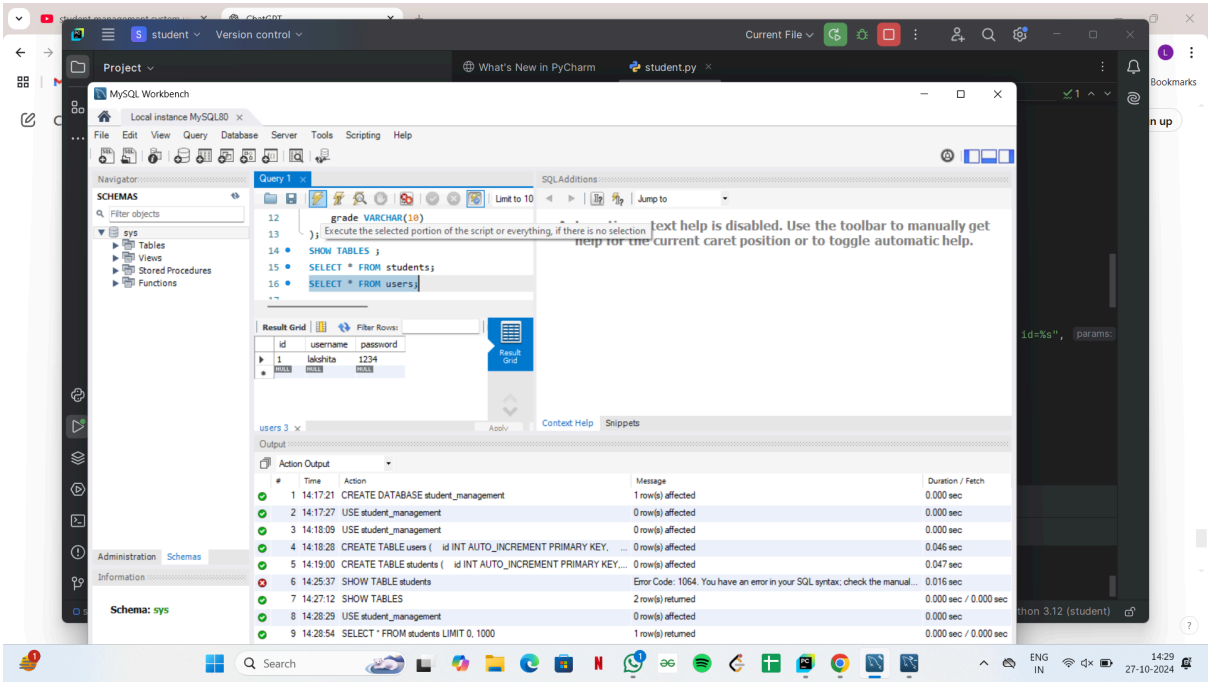

student
Version control
Current File
Project
student C:\Users\pareet\PycharmProjects\student
What's New in PyCharm
student.py
elif student_choice == '3':
student_id = int(input("Enter student ID to update: "))
Run
student
Enter your choice: 1
Enter name: aayushi
Enter age: 22
Enter grade: 91
Student added successfully!
--- Student Management ---
1. Add Student
2. View Students
3. Update Student
4. Delete Student
5. Logout
Enter your choice: 2
ID Name Age Grade
1 lakshita 21 86
2 aayushi 22 91
--- Student Management ---
1. Add Student
2. View Students
3. Update Student
4. Delete Student
5. Logout
Enter your choice:
student > student.py
9:29 CRLF UTF-8 4 spaces Python 3.12 (student)
Search
ENG IN
14:21 27-10-2024

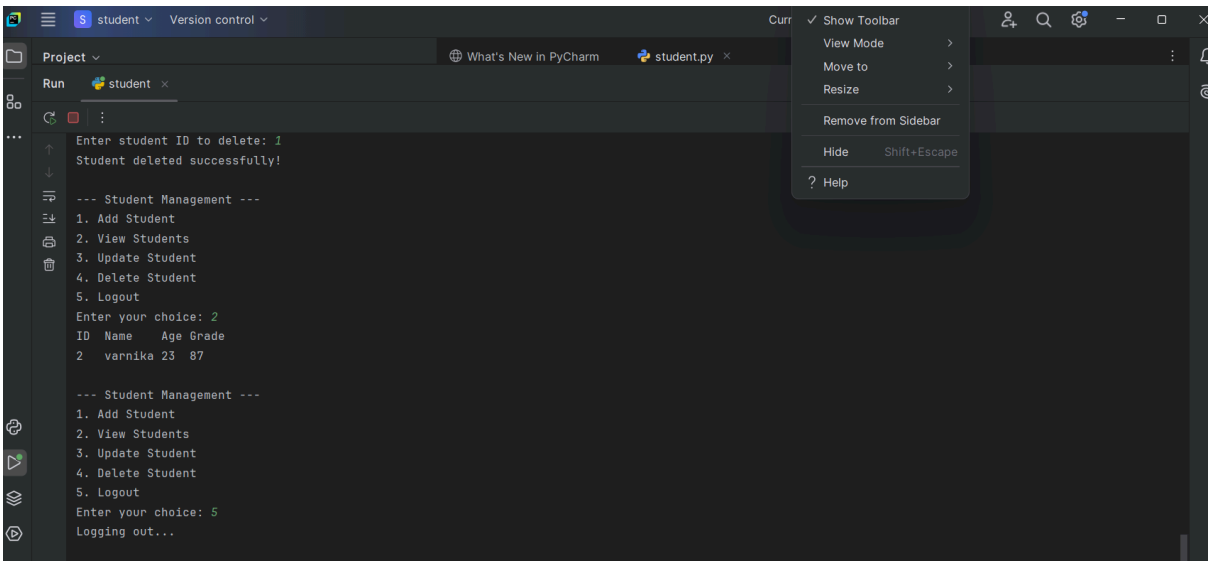

student
Version control
Current File
Project
student C:\Users\pareet\PycharmProjects\student
What's New in PyCharm
student.py
elif student_choice == '3':
student_id = int(input("Enter student ID to update: "))
Run
student
ID Name Age Grade
1 lakshita 21 86
2 aayushi 22 91
--- Student Management ---
1. Add Student
2. View Students
3. Update Student
4. Delete Student
5. Logout
Enter your choice: 3
Enter student ID to update: 2
Enter new name: varnika
Enter new age: 23
Enter new grade: 87
Student updated successfully!
--- Student Management ---
1. Add Student
2. View Students
3. Update Student
4. Delete Student
5. Logout
Enter your choice:
student > student.py
9:29 CRLF UTF-8 4 spaces Python 3.12 (student)
Search
ENG IN
14:22 27-10-2024


student
Version control
Current File
Project
student C:\Users\pareet\PycharmProjects\student
What's New in PyCharm
student.py
elif student_choice == '3':
student_id = int(input("Enter student ID to update: "))
Run
student
Enter student ID to update: 2
Enter new name: varnika
Enter new age: 23
Enter new grade: 87
Student updated successfully!
--- Student Management ---
1. Add Student
2. View Students
3. Update Student
4. Delete Student
5. Logout
Enter your choice: 2
ID Name Age Grade
1 lakshita 21 86
2 varnika 23 87
--- Student Management ---
1. Add Student
2. View Students
3. Update Student
4. Delete Student
5. Logout
Enter your choice:
student > student.py
9:29 CRLF UTF-8 4 spaces Python 3.12 (student)
Search
ENG IN
14:22 27-10-2024


MySQL Workbench
Local instance MySQL80
Query 1
SHOW TABLES ;
Result Grid
Tables_in_student_management
students
users
Action Output
1 14:17:21 CREATE DATABASE student_management 1 row(s) affected 0.000 sec
2 14:17:27 USE student_management 0 row(s) affected 0.000 sec
3 14:18:09 USE student_management 0 row(s) affected 0.000 sec
4 14:18:28 CREATE TABLE users (id INT AUTO_INCREMENT PRIMARY KEY, ... 0 row(s) affected 0.046 sec
5 14:19:00 CREATE TABLE students (id INT AUTO_INCREMENT PRIMARY KEY,... 0 row(s) affected 0.047 sec
6 14:25:37 SHOW TABLE students Error Code: 1064. You have an error in your SQL syntax; check the manual... 0.016 sec
7 14:27:12 SHOW TABLES 2 row(s) returned 0.000 sec / 0.000 sec
Schema: sys


MySQL Workbench
Local instance MySQL80
Query 1
SELECT * FROM students;
Result Grid
id name age grade
2 varnika 23 87
students 2
Action Output
1 14:17:21 CREATE DATABASE student_management 1 row(s) affected 0.000 sec
2 14:17:27 USE student_management 0 row(s) affected 0.000 sec
3 14:18:09 USE student_management 0 row(s) affected 0.000 sec
4 14:18:28 CREATE TABLE users (id INT AUTO_INCREMENT PRIMARY KEY, ... 0 row(s) affected 0.046 sec
5 14:19:00 CREATE TABLE students (id INT AUTO_INCREMENT PRIMARY KEY,... 0 row(s) affected 0.047 sec
6 14:25:37 SHOW TABLE students Error Code: 1064. You have an error in your SQL syntax; check the manual... 0.016 sec
7 14:27:12 SHOW TABLES 2 row(s) returned 0.000 sec / 0.000 sec
8 14:28:29 USE student_management 0 row(s) affected 0.000 sec
9 14:28:54 SELECT * FROM students LIMIT 0, 1000 1 row(s) returned 0.000 sec / 0.000 sec
Schema: sys


student
Version control
Current File
Project
What's New in PyCharm
student.py
MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
Navigator:
SCHEMAS
Filter objects
sys
Tables
Views
Stored Procedures
Functions
Query 1
Limit to 10
Jump to
SQLAdditions
12 grade VARCHAR(10)
13);
14 SHOW TABLES ;
15 SELECT * FROM students;
16 SELECT * FROM users;
Execute the selected portion of the script or everything, if there is no selection
text help is disabled. Use the toolbar to manually get
help for the current caret position or to toggle automatic help.
Result Grid
Filter Rows:
id username password
1 lakshita 1234
Result Grid
users 3
Apply
Context Help
Snippets
Output
Action Output
Time Action Message Duration / Fetch
1 14:17:21 CREATE DATABASE student_management 1 row(s) affected 0.000 sec
2 14:17:27 USE student_management 0 row(s) affected 0.000 sec
3 14:18:09 USE student_management 0 row(s) affected 0.000 sec
4 14:18:28 CREATE TABLE users (id INT AUTO_INCREMENT PRIMARY KEY, ... 0 row(s) affected 0.046 sec
5 14:19:00 CREATE TABLE students (id INT AUTO_INCREMENT PRIMARY KEY,... 0 row(s) affected 0.047 sec
6 14:25:37 SHOW TABLE students Error Code: 1064. You have an error in your SQL syntax; check the manual... 0.016 sec
7 14:27:12 SHOW TABLES 2 row(s) returned 0.000 sec / 0.000 sec
8 14:28:29 USE student_management 0 row(s) affected 0.000 sec
9 14:28:54 SELECT * FROM students LIMIT 0, 1000 1 row(s) returned 0.000 sec / 0.000 sec
Administration Schemas
Information
Schema: sys
Search
ENG IN
14:29 27-10-2024


student
Version control
Project
What's New in PyCharm
student.py
Run
student
Enter student ID to delete: 1
Student deleted successfully!
--- Student Management ---
1. Add Student
2. View Students
3. Update Student
4. Delete Student
5. Logout
Enter your choice: 2
ID Name Age Grade
2 varnika 23 87
--- Student Management ---
1. Add Student
2. View Students
3. Update Student
4. Delete Student
5. Logout
Enter your choice: 5
Logging out...
Show Toolbar
View Mode
Move to
Resize
Remove from Sidebar
Hide Shift+Escape
Help