CODE FOR TEACHER DATABASE

```
import os


class TeacherDatabase:
    def __init__(self):
        self.teachers = []
        self.file_path = r"C:\Users\aa\Documents\VS Code\DataBase Files\TeacherDatabase.txt"


    def add_teacher(self):
        name = input("Enter teacher's name: ")
        age = input("Enter teacher's age: ")
        gender = input("Enter teacher's gender: ")
        post = input("Enter teacher's post: ")
        salary = input("Enter teacher's salary: ")


        teacher_data = {
            'name': name,
            'age': age,
            'gender': gender,
            'post': post,
            'salary': salary
        }
        self.teachers.append(teacher_data)
        self.save_to_file(teacher_data)
        print("Teacher added successfully.")


    def save_to_file(self, data):
        with open(self.file_path, 'a') as file:
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        file.write(f"Name: {data['name']}, Age: {data['age']}, Gender: {data['gender']}, Post: {data['post']}, Salary: {data['salary']}\n")


    def view_data(self):
        if not self.teachers:
            print("No teacher data available.")
        else:
            print("Teacher Data:")
            for i, teacher in enumerate(self.teachers, start=1):
                print(f"Teacher {i}:")
                print(f"Name: {teacher['name']}")
                print(f"Age: {teacher['age']}")
                print(f"Gender: {teacher['gender']}")
                print(f"Post: {teacher['post']}")
                print(f"Salary: {teacher['salary']}")
                print()


    def run(self):
        while True:
            print("\n1. Add Teacher\n2. View Data\n3. Exit")
            choice = input("Enter your choice: ")
            if choice == '1':
                self.add_teacher()
            elif choice == '2':
                self.view_data()
            elif choice == '3':
                print("Exiting...")
                break
            else:
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```
            print("Invalid choice. Please enter again.")


if __name__ == "__main__":
    teacher_db = TeacherDatabase()
    teacher_db.run()
```

CODE FOR STUDENT DATABASE

```
import os


class StudentDatabase:
    def __init__(self):
        self.students = []
        self.file_path = r"C:\Users\aa\Documents\VS Code\DataBase Files\StudentDatabase.txt"


    def add_student(self):
        name = input("Enter student's name: ")
        age = input("Enter student's age: ")
        gender = input("Enter student's gender: ")
        attendance_percentage = float(input("Enter student's attendance percentage: "))
        while attendance_percentage < 0 or attendance_percentage > 100:
            print("Attendance percentage must be between 0 and 100.")
            attendance_percentage = float(input("Enter student's attendance percentage: "))


        marks_urdu = int(input("Enter student's marks in Urdu: "))
        while marks_urdu < 0 or marks_urdu > 100:
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    print("Marks must be between 0 and 100.")
    marks_urdu = int(input("Enter student's marks in Urdu: "))

marks_english = int(input("Enter student's marks in English: "))
while marks_english < 0 or marks_english > 100:
    print("Marks must be between 0 and 100.")
    marks_english = int(input("Enter student's marks in English: "))

marks_math = int(input("Enter student's marks in Math: "))
while marks_math < 0 or marks_math > 100:
    print("Marks must be between 0 and 100.")
    marks_math = int(input("Enter student's marks in Math: "))

marks_biology = int(input("Enter student's marks in Biology: "))
while marks_biology < 0 or marks_biology > 100:
    print("Marks must be between 0 and 100.")
    marks_biology = int(input("Enter student's marks in Biology: "))

marks_chemistry = int(input("Enter student's marks in Chemistry: "))
while marks_chemistry < 0 or marks_chemistry > 100:
    print("Marks must be between 0 and 100.")
    marks_chemistry = int(input("Enter student's marks in Chemistry: "))

total_marks = marks_urdu + marks_english + marks_math + marks_biology + marks_chemistry
percentage = total_marks / 5

student_data = {
    'name': name,
    'age': age,
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        'gender': gender,
        'attendance_percentage': attendance_percentage,
        'marks_urdu': marks_urdu,
        'marks_english': marks_english,
        'marks_math': marks_math,
        'marks_biology': marks_biology,
        'marks_chemistry': marks_chemistry,
        'percentage': percentage
    }
    self.students.append(student_data)
    self.save_to_file(student_data)

    if percentage > 90:
        print("CONGRATULATIONS!! YOU GOT GOLD MEDAL...")

    print("Student added successfully.")

def save_to_file(self, data):
    with open(self.file_path, 'a') as file:
        file.write(f"Name: {data['name']}, Age: {data['age']}, Gender: {data['gender']}, "
                   f"Attendance Percentage: {data['attendance_percentage']}%, "
                   f"Marks (Urdu): {data['marks_urdu']}, Marks (English): {data['marks_english']}, "
                   f"Marks (Math): {data['marks_math']}, Marks (Biology): {data['marks_biology']}, "
                   f"Marks (Chemistry): {data['marks_chemistry']}, "
                   f"Percentage: {data['percentage']}%\n")

def view_data(self):
    if not self.students:
        print("No student data available.")
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```
    else:
        print("Student Data:")
        for i, student in enumerate(self.students, start=1):
            print(f"Student {i}:")
            print(f"Name: {student['name']}")
            print(f"Age: {student['age']}")
            print(f"Gender: {student['gender']}")
            print(f"Attendance Percentage: {student['attendance_percentage']}%")
            print(f"Marks (Urdu): {student['marks_urdu']}")
            print(f"Marks (English): {student['marks_english']}")
            print(f"Marks (Math): {student['marks_math']}")
            print(f"Marks (Biology): {student['marks_biology']}")
            print(f"Marks (Chemistry): {student['marks_chemistry']}")
            print(f"Percentage: {student['percentage']}%")
            print()

def run(self):
    while True:
        print("\n1. Add Student\n2. View Data\n3. Exit")
        choice = input("Enter your choice: ")
        if choice == '1':
            self.add_student()
        elif choice == '2':
            self.view_data()
        elif choice == '3':
            print("Exiting...")
            break
        else:
            print("Invalid choice. Please enter again.")
```

```
if __name__ == "__main__":
    student_db = StudentDatabase()
    student_db.run()
```

FINAL CODE FOR ANALYSYS

```
def view_teachers_data(teachers_data):
    print("Teacher's Data:")
    print("\n".join(teachers_data))
    while True:
        print("\nOptions:")
        print("1. Male and Female Teachers")
        print("2. Total Salaries")
        print("3. Back")

        choice = input("Enter your choice: ")

        if choice == '1':
            num_male_teachers = sum(1 for teacher in teachers_data if 'gender: male' in teacher.lower())
            num_female_teachers = sum(1 for teacher in teachers_data if 'gender: female' in teacher.lower())
            print(f"Number of Male Teachers: {num_male_teachers}")
            print(f"Number of Female Teachers: {num_female_teachers}")
        elif choice == '2':
            total_salary = sum(float(teacher.split(',')[-1].split(':')[-1].strip()) for teacher in teachers_data)
            print(f"Total Finance (Sum of all teachers' salaries): ${total_salary:.2f}")
```

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        elif choice == '3':
            break
        else:
            print("Invalid choice. Please enter a valid option.")

def view_students_data(students_data):
    print("Student's Data:")
    print("\n".join(students_data))
    while True:
        print("\nOptions:")
        print("1. Male and Female Students")
        print("2. Back")

        choice = input("Enter your choice: ")

        if choice == '1':
            num_male_students = sum(1 for student in students_data if 'gender: male' in student.lower())
            num_female_students = sum(1 for student in students_data if 'gender: female' in student.lower())
            print(f"Number of Male Students: {num_male_students}")
            print(f"Number of Female Students: {num_female_students}")
        elif choice == '2':
            break
        else:
            print("Invalid choice. Please enter a valid option.")

def main():
    teachers_data = []
    students_data = []
    try:
```

```
    with open(r'C:\Users\aa\Documents\VS Code\DataBase Files\TeacherDatabase.txt', 'r') as file:
        teachers_data = file.readlines()
except FileNotFoundError:
    print("Teacher's Database file not found.")

try:
    with open(r'C:\Users\aa\Documents\VS Code\DataBase Files\StudentDatabase.txt', 'r') as file:
        students_data = file.readlines()
except FileNotFoundError:
    print("Student's Database file not found.")

while True:
    print("\nOptions:")
    print("1. View Teacher's Data")
    print("2. View Student's Data")
    print("3. Exit")

    choice = input("Enter your choice: ")

    if choice == '1':
        view_teachers_data(teachers_data)
    elif choice == '2':
        view_students_data(students_data)
    elif choice == '3':
        print("Exiting program.")
        break
    else:
        print("Invalid choice. Please enter a valid option.")
```

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