Ria Venice T. Cruz
TW23

Activity 4: List and Tuple

OUTPUT:

MAIN MENU:

```
Record Management
1. Add record
2. Edit record
3. Delete record
4. Show Student Record
5. Show All Student Records
6. Save file
7. Open file
8. Save as file
9. Exit
Enter your choice:
```

OPTIONS:

1. **ADD RECORD**

```
Enter your choice: 1
Enter Student ID (6 digits): 123456
Enter First Name: ria
Enter Last Name: cruz
Enter Class Standing Grade: 89
Enter Major Exam Grade: 90

Successfully added!
```

2. **EDIT RECORD**

```
Enter your choice: 2
Enter Student ID to edit: 123456
Enter New First Name: Venice
Enter New Last Name: Taas
Enter New Class Standing Grade: 91
Enter New Major Exam Grade: 90

Record updated!
```

3. **DELETE RECORD**

```
Enter your choice: 3
Enter Student ID to delete: 123456

Record deleted!
```

4. **SHOW STUDENT RECORD**

Doesn't Exists / Deleted:

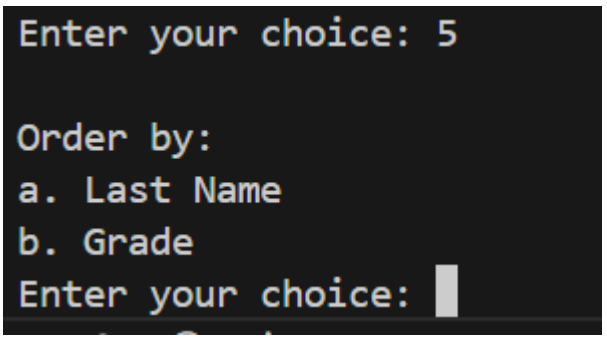
```
Enter your choice: 4
Enter Student ID: 123456

Student not found.
```

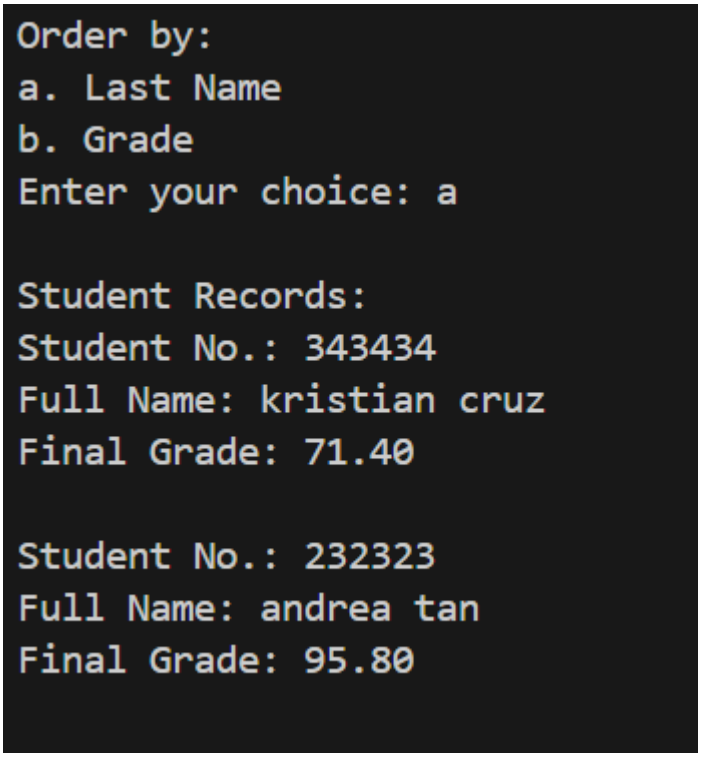
If Student Exists:

```
Enter your choice: 4
Enter Student ID: 123456
('123456', 'Venice', 'Taas', 91.0, 90.0)
```

5. **SHOW ALL STUDENT RECORDS**



LAST NAME:



GRADE:

```
Order by:
a. Last Name
b. Grade
Enter your choice: b

Student Records:
Student No.: 232323
Full Name: andrea tan
Final Grade: 95.80

Student No.: 343434
Full Name: kristian cruz
Final Grade: 71.40
```

6. **SAVE FILE**

```
Enter your choice: 6

Records saved successfully!
```

7. **OPEN FILE**

```
Enter your choice: 7

Student Records:
('232323', 'andrea', 'tan', 95.0, 97.0)
('343434', 'kristian', 'cruz', 67.0, 78.0)

File loaded successfully.
```

8. **SAVE AS FILE**

```
Enter your choice: 8
Enter the file name: studentrec

Records saved as studentrec
```

record management | studentrec U

studentrec

```
1
2    Student Records:
3    ('232323', 'andrea', 'tan', 95.0, 97.0)
4    ('343434', 'kristian', 'cruz', 67.0, 78.0)
5
```

9. **EXIT**

```
Enter your choice: 9

Exiting program...
PS C:\Users\Ria Cruz\Documents\GitHub\it0011_cruz>
```

SOURCE CODE:

```
# Record Management Program

student_records = []

while True:
    print("\nRecord Management")
    print("1. Add record")
    print("2. Edit record")
    print("3. Delete record")
    print("4. Show Student Record")
    print("5. Show All Student Records")
    print("6. Save file")
    print("7. Open file")
    print("8. Save as file")
    print("9. Exit")
```

```
    choice = int(input("Enter your choice: "))

    if choice == 1:  # add record
        student_id = input("Enter Student ID (6 digits): ")
        if len(student_id) != 6 or not student_id.isdigit():  # check
if student_id is 6 digits
            print("\nInvalid ID! Must be 6 digits.")
        else:
            first_name = input("Enter First Name: ")
            last_name = input("Enter Last Name: ")
            class_standing = float(input("Enter Class Standing Grade:
"))
            major_exam = float(input("Enter Major Exam Grade: "))
            student_records.append((student_id, first_name, last_name,
class_standing, major_exam))
            print("\nSuccessfully added!")


    elif choice == 2: # edit record
        student_id = input("Enter Student ID to edit: ")
        found = False
        for i in range(len(student_records)):
            if student_records[i][0] == student_id:
                first_name = input("Enter New First Name: ")
                last_name = input("Enter New Last Name: ")
                class_standing = float(input("Enter New Class Standing
Grade: "))
                major_exam = float(input("Enter New Major Exam Grade:
"))
                student_records[i] = (student_id, first_name,
last_name, class_standing, major_exam)
                print("\nRecord updated!")
                found = True
                break
        if not found:
            print("\nStudent not found.")

    elif choice == 3: # delete record
        student_id = input("Enter Student ID to delete: ")
        new_records = []
        found = False
        for record in student_records:
```

```
            if record[0] != student_id:
                new_records.append(record)
            else:
                found = True
        student_records = new_records
        if found:
            print("\nRecord deleted!")
        else:
            print("\nStudent not found.")

    elif choice == 4:  # Show student record
         student_id = input("Enter Student ID: ")
         found = False
         for record in student_records:
            if record[0] == student_id:
                print(record)
                found = True
                break
         if not found:
            print("\nStudent not found.")

    elif choice == 5:  # Show all student records
        if not student_records:
            print("\nNo records available.")
        else:
            print("\nOrder by:")
            print("a. Last Name")
            print("b. Grade")
            order = input("Enter your choice: ")
            if order == "a":
                student_records.sort(key=lambda x: x[2])
            elif order == "b":
               student_records.sort(key=lambda x: ((float(x[3]) * 0.6 +
float(x[4]) * 0.4)), reverse=True)

            print("\nStudent Records:")
            for student in student_records:
                final_grade = (float(student[3]) * 0.6 +
float(student[4]) * 0.4)
                print(f"Student No.: {student[0]}")
                print(f"Full Name: {student[1]} {student[2]}")
                print(f"Final Grade: {final_grade:.2f}\n")
```

```
    elif choice == 6:  #save file
        file = open("student.txt", "w")
        file.write("\nStudent Records:\n")
        for record in student_records:
            file.write(str(record) + "\n")
        file.close()
        print("\nRecords saved successfully!")

    elif choice == 7:  # open file
        try:
            file = open("student.txt", "r")
            print(file.read())
            file.close()
            print("File loaded successfully.")
        except FileNotFoundError:
            print("File not found.")

    elif choice == 8:  # save as file
        filename = input("Enter the file name: ")
        file = open(filename, "w")
        file.write("\nStudent Records:\n")
        for record in student_records:
            file.write(str(record) + "\n")
        file.close()
        print("\nRecords saved as", filename)

    elif choice == 9:  # Exit
        print("\nExiting program...")
        file = open("student.txt", "w")
        for record in student_records:
            file.write(str(record) + "\n")
        file.close()
        break

    else:
        print("\nInvalid choice! Try again.")
```