1. List of all students

```
--- Menu ---
1. List all students
2. Sort students by name
3. List all courses
4. List courses by semester
5. List all courses sorted by course name
6. Add a new student , course and grade
7. Update student info
Search for a course (by name or code)
9. Search for a student (by last name or phone number)
10. Show courses and grades by student

    Calculate average grade for a student (user inputs last name)

12. Calculate average grade for student for specific term (user inputs last name and term)

    Calculate average grade for specific course(user input course name)

0. Exit
Enter your choice: 1
Original List of Students:
['1', 'Black', 'Anna', '4376902123', 'asd@aajbh']
['2', 'Smith', 'Jane', '4374567812', 'j_smith@gmail.com']
['3', 'n', '', '786453132', 'fsdgsd@vvsgfdv']
```

2. Sort students by name (Ascending)

```
--- Menu ---
1. List all students
Sort students by name
List all courses
4. List courses by semester
5. List all courses sorted by course name
6. Add a new student , course and grade
7. Update student info
Search for a course (by name or code)
9. Search for a student (by last name or phone number)
10. Show courses and grades by student
11. Calculate average grade for a student (user inputs last name)
12. Calculate average grade for student for specific term (user inputs last name and term)
Calculate average grade for specific course(user input course name)
0. Exit
Enter your choice: 2
Please press (A) for Alphabetical order or (R) for Reverse order
Enter your choice: a
['3', 'n', '', '786453132', 'fsdgsd@vvsgfdv']
['1', 'Black', 'Anna', '4376902123', 'asd@aajbh']
['2', 'Smith', 'Jane', '4374567812', 'j_smith@gmail.com']
```

3. Sort students by name (reverse)

```
--- Menu ---
1. List all students
2. Sort students by name
3. List all courses
4. List courses by semester
5. List all courses sorted by course name
6. Add a new student , course and grade
7. Update student info
8. Search for a course (by name or code)
9. Search for a student (by last name or phone number)
10. Show courses and grades by student
11. Calculate average grade for a student (user inputs last name)
12. Calculate average grade for student for specific term (user inputs last name and term)
13. Calculate average grade for specific course(user input course name)
0. Exit
Enter your choice: 2
Please press (A) for Alphabetical order or (R) for Reverse order
Enter your choice: r
['2', 'Smith', 'Jane', '4374567812', 'j_smith@gmail.com']
['1', 'Black', 'Anna', '4376902123', 'asd@aajbh']
['3', 'n', '', '786453132', 'fsdgsd@vvsgfdv']
```

4. List all courses

```
--- Menu ---
1. List all students
2. Sort students by name
3. List all courses
4. List courses by semester
5. List all courses sorted by course name
Add a new student , course and grade
7. Update student info
8. Search for a course (by name or code)
9. Search for a student (by last name or phone number)
10. Show courses and grades by student
11. Calculate average grade for a student (user inputs last name)
Calculate average grade for student for specific term (user inputs last name and term)

    Calculate average grade for specific course(user input course name)

0. Exit
Enter your choice: 3
Original List of Courses:
['CS2020', 'winter', '1']
['CS2020', 'fall', '2']
['CS2040', 'fall', '3']
['CS2910', 'winter', '4']
['cs90000', 'winter', '2']
```

5. List courses by semester(fall)

```
--- Menu ---
1. List all students
Sort students by name
List all courses
4. List courses by semester
5. List all courses sorted by course name
6. Add a new student , course and grade
7. Update student info
8. Search for a course (by name or code)
Search for a student (by last name or phone number)
10. Show courses and grades by student
11. Calculate average grade for a student (user inputs last name)
Calculate average grade for student for specific term (user inputs last name and term)
13. Calculate average grade for specific course(user input course name)
0. Exit
Enter your choice: 4
Enter semester (e.g., fall, winter): fall
Courses in Fall Semester:
['CS2020', 'fall', '2']
['CS2040', 'fall', '3']
```

-Winter

```
1. List all students
Sort students by name
3. List all courses
4. List courses by semester
5. List all courses sorted by course name
6. Add a new student , course and grade
7. Update student info
8. Search for a course (by name or code)
Search for a student (by last name or phone number)
10. Show courses and grades by student

    Calculate average grade for a student (user inputs last name)

Calculate average grade for student for specific term (user inputs last name and term)

    Calculate average grade for specific course(user input course name)

0. Exit
Enter your choice: 4
Enter semester (e.g., fall, winter): winter
Courses in Winter Semester:
['CS2020', 'winter', '1']
['CS2910', 'winter', '4']
['cs90000', 'winter', '2']
```

5. List all courses sorted by course name

```
--- Menu ---
1. List all students
Sort students by name
3. List all courses
4. List courses by semester
5. List all courses sorted by course name
6. Add a new student , course and grade
7. Update student info
8. Search for a course (by name or code)
Search for a student (by last name or phone number)
10. Show courses and grades by student
11. Calculate average grade for a student (user inputs last name)
Calculate average grade for student for specific term (user inputs last name and term)
13. Calculate average grade for specific course(user input course name)
0. Exit
Enter your choice: 5
Enter semester (e.g., fall, winter): fall
Please press (A) for Alphabetic order or (R) for Reverse order
Enter your choice: a
Courses in Fall Semester (Sorted):
['CS2020', 'fall', '2']
['CS2040', 'fall', '3']
```

6.List all courses sorted by course name (reverse)

```
--- Menu ---

    List all students

2. Sort students by name
3. List all courses
4. List courses by semester
5. List all courses sorted by course name
6. Add a new student , course and grade
7. Update student info
8. Search for a course (by name or code)
Search for a student (by last name or phone number)
10. Show courses and grades by student
11. Calculate average grade for a student (user inputs last name)
Calculate average grade for student for specific term (user inputs last name and term)

    Calculate average grade for specific course(user input course name)

0. Exit
Enter your choice: 5
Enter semester (e.g., fall, winter): winter
Please press (A) for Alphabetic order or (R) for Reverse order
Enter your choice: r
Courses in Winter Semester (Sorted):
['cs90000', 'winter', '2']
['CS2910', 'winter', '4']
['CS2020', 'winter', '1']
```

7.Add a new student, course and grade

```
--- Menu ---
1. List all students
Sort students by name
3. List all courses
4. List courses by semester
List all courses sorted by course name
6. Add a new student , course and grade
7. Update student info
8. Search for a course (by name or code)
Search for a student (by last name or phone number)
10. Show courses and grades by student

    Calculate average grade for a student (user inputs last name)

12. Calculate average grade for student for specific term (user inputs last name and term)

    Calculate average grade for specific course(user input course name)

0. Exit
Enter your choice: 6
Enter last name: pum
Enter first name: papi
Enter phone number: 24357235
Enter email: papipum@gmai.com
New student added successfully!
Enter course name: cs2020
Enter course code: winter
Enter semester: 1
New course added successfully!
Entering grade----
Enter grade: 69
Grade added successfully!
```

8. Update student info

```
--- Menu ---
1. List all students
2. Sort students by name
3. List all courses
4. List courses by semester
5. List all courses sorted by course name
6. Add a new student , course and grade
7. Update student info
8. Search for a course (by name or code)
9. Search for a student (by last name or phone number)
10. Show courses and grades by student

    Calculate average grade for a student (user inputs last name)

12. Calculate average grade for student for specific term (user inputs last name and term)

    Calculate average grade for specific course(user input course name)

0. Exit
Enter your choice: 7
Enter student ID: 1
Current info: ['1', 'Black', 'Anna', '4376902123', 'asd@aajbh']
Enter new last name: Smith
Enter new first name: Anna
Enter new phone:
Enter new email:
Student info updated successfully!
```

9. Search for a course (by naem or code)

```
--- Menu ---
1. List all students
2. Sort students by name
3. List all courses
4. List courses by semester
List all courses sorted by course name
6. Add a new student , course and grade
7. Update student info
8. Search for a course (by name or code)
9. Search for a student (by last name or phone number)
10. Show courses and grades by student
11. Calculate average grade for a student (user inputs last name)
12. Calculate average grade for student for specific term (user inputs last name and term)

    Calculate average grade for specific course(user input course name)

0. Exit
Enter your choice: 8
Search by (1) Name or (2) Code? Enter 1 or 2: 1
Enter course name: cs2020
Search Result:
['CS2020', 'winter', '1']
['CS2020', 'fall', '2']
['cs2020', 'winter', '1']
```

-By code

```
--- Menu ---
1. List all students
2. Sort students by name
3. List all courses
List courses by semester
List all courses sorted by course name
6. Add a new student , course and grade
7. Update student info
8. Search for a course (by name or code)
9. Search for a student (by last name or phone number)
10. Show courses and grades by student
11. Calculate average grade for a student (user inputs last name)
12. Calculate average grade for student for specific term (user inputs last name and term)

    Calculate average grade for specific course(user input course name)

0. Exit
Enter your choice: 8
Search by (1) Name or (2) Code? Enter 1 or 2: 2
Enter course code: winter
Search Result:
['CS2020', 'winter', '1']
['CS2910', 'winter', '4']
['cs90000', 'winter', '2']
['cs2020', 'winter', '1']
```

10. Search for a student (by last name)

```
--- Menu ---
1. List all students
Sort students by name
3. List all courses
4. List courses by semester
5. List all courses sorted by course name
6. Add a new student , course and grade
7. Update student info
8. Search for a course (by name or code)
9. Search for a student (by last name or phone number)
10. Show courses and grades by student
11. Calculate average grade for a student (user inputs last name)
Calculate average grade for student for specific term (user inputs last name and term)

    Calculate average grade for specific course(user input course name)

Exit
Enter your choice: 9
Search by (1) Last Name or (2) Phone Number? Enter 1 or 2: 1
Enter last name: Smith
Search Result:
['1', 'Smith', 'Anna', '4376902123', 'asd@aajbh']
['2', 'Smith', 'Jane', '4374567812', 'j_smith@gmail.com']
```

-By number

```
--- Menu ---
1. List all students
2. Sort students by name
3. List all courses
List courses by semester
5. List all courses sorted by course name
6. Add a new student , course and grade
7. Update student info
8. Search for a course (by name or code)
9. Search for a student (by last name or phone number)
10. Show courses and grades by student

    Calculate average grade for a student (user inputs last name)

Calculate average grade for student for specific term (user inputs last name and term)

    Calculate average grade for specific course(user input course name)

0. Exit
Enter your choice: 9
Search by (1) Last Name or (2) Phone Number? Enter 1 or 2: 2
Enter phone number: 4374567812
Search Result:
['2', 'Smith', 'Jane', '4374567812', 'j_smith@gmail.com']
```

11. Show courses and grades by student

```
--- Menu --
1. List all students
Sort students by name
3. List all courses
4. List courses by semester
List all courses sorted by course name
6. Add a new student , course and grade
7. Update student info
Search for a course (by name or code)
Search for a student (by last name or phone number)
10. Show courses and grades by student

    Calculate average grade for a student (user inputs last name)

12. Calculate average grade for student for specific term (user inputs last name and term)
Calculate average grade for specific course(user input course name)
0. Exit
Enter your choice: 10
Enter student last name: Smith
Courses and Grades for Smith:
Course: cs2020 (Semester: Winter)
Grades: 4376902123, asd@aajbh
Course: cs90000 (Semester: Winter)
Grades: 4374567812, j_smith@gmail.com
```

12. Calculate average grade for a student (user inputs last name)

```
--- Menu ---

    List all students

Sort students by name
List all courses
List courses by semester
5. List all courses sorted by course name
Add a new student , course and grade
7. Update student info
8. Search for a course (by name or code)
9. Search for a student (by last name or phone number)
10. Show courses and grades by student
11. Calculate average grade for a student (user inputs last name)
12. Calculate average grade for student for specific term (user inputs last name and term)

    Calculate average grade for specific course(user input course name)

0. Exit
Enter your choice: 11
Enter student last name: Smith
Average Grade for Smith: 60.83
```

13. Calculate average grade for student for specific term(user inputs last name and term)

```
--- Menu ---
1. List all students
Sort students by name
3. List all courses
4. List courses by semester
5. List all courses sorted by course name
6. Add a new student , course and grade
7. Update student info
Search for a course (by name or code)

    Search for a student (by last name or phone number)

10. Show courses and grades by student
11. Calculate average grade for a student (user inputs last name)
12. Calculate average grade for student for specific term (user inputs last name and term)

    Calculate average grade for specific course(user input course name)

0. Exit
Enter your choice: 12
Enter student last name: Smith
Enter semester: Winter
Average Grade for Smith in Winter Semester: 50.88
```

14. Calculate average grade for specific course(user input course name)

```
--- Menu ---
1. List all students
2. Sort students by name
3. List all courses
4. List courses by semester
5. List all courses sorted by course name
6. Add a new student , course and grade
7. Update student info
Search for a course (by name or code)

    Search for a student (by last name or phone number)

10. Show courses and grades by student
11. Calculate average grade for a student (user inputs last name)
12. Calculate average grade for student for specific term (user inputs last name and term)

    Calculate average grade for specific course(user input course name)

0. Exit
Enter your choice: 13
Enter course name: cs2020
Average Grade for Cs2020: 50.88
```