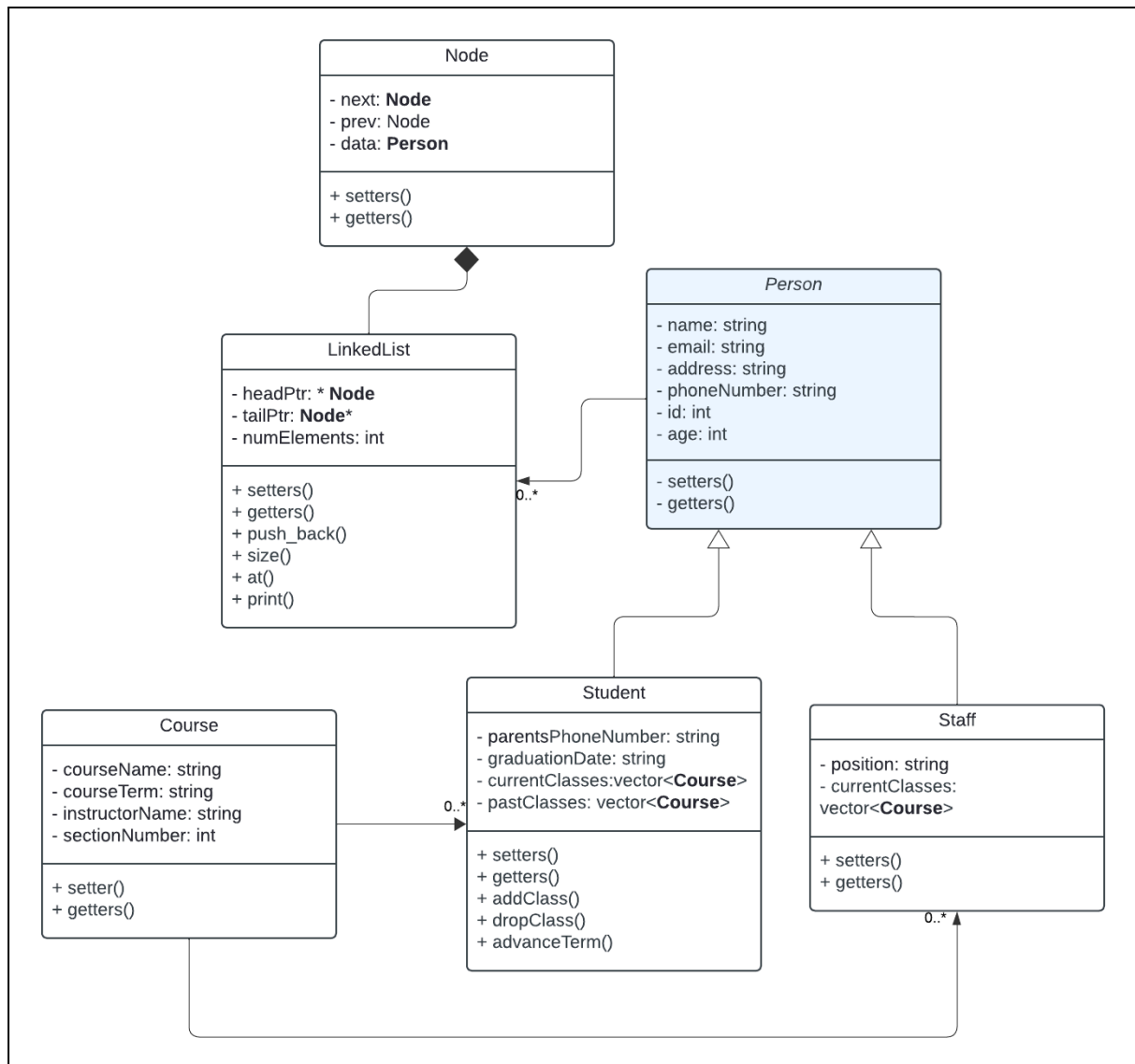


Group Project Draft: "School Directory App"

UML diagram:



Steps of development:

1. Update LinkedList to be class-based
2. Template class LinkedList
3. Create person, student, staff, and course objects
4. Write Directory interface
5. Creating files and allowing our code to open, write in, save things, and close those files.
6. Writing test functions, something simple (outputting student attributes, ensure the the code is writing in the file, ect)
7. We start adding functionality to the applications defined in directory interface(sorting students, adding courses, ect)

8. Finally, test the functionality of the entire code, if needed make optimizations and adjustments.

Summary:

We will be creating a school directory app. The school directory will be stored in two LinkedList's, one for staff and one for students. The data used to create these lists will be read in from a file and any data that is added by a user will be written back to that file. A user of this app could sort or search the directory by the attributes of either student or staff and make edits to those attributes. It may do other things that are useful in an administrative sense. Things like sorting students by name or accessing previous course histories.

Future Stages:

Some of the things that could have been added but have not yet been would be Things to use our LinkedList to store our students and staff. We would also like to add functionality to read in from a file and store back to that file on the program close. We weren't able to get to this as we struggled with the linked list. We would have liked to implement some other functions, such as an interface for just students to access. This would not include things that only the administrator should be able to see. Instead, it would only have certain functions for the student to use, such as looking at their previous classes or maybe looking at available courses that they can add. However, we were able to get a lot of the things we wanted to complete done. The user is able to search and sort students and staff; things like adding and removing students and staff, along with adding courses, are also options.

Screenshots of Functionality:

Add person:

```
-----  
Welcome to the School Management System  
Options menu:  
1. Add Student  
2. Add Staff  
3. Remove Student  
4. Remove Staff  
5. Add Course  
6. Sort Student  
7. Sort Staff  
8. Search Student  
9. Search Staff  
10. Find all Students  
11. Find all Staff  
12. Print Student  
13. Print Staff  
Enter a number from 1 to 13, or 0 to exit: 1  
Enter student id: 10  
Searching by id  
Enter student name: Max  
Enter student email: email@email.email  
Enter student address: 123place  
Enter student phone: 1234567890  
Enter student age: 23  
Enter student parent phone: 0987654321  
Enter student graduation year: 26  
Adding Student  
-----
```

Student Name: Max
Student Email: email@email.email
Student Address: 123place
Student Phone: 1234567890
Student Age: 23
Student ID: 10
Student Parent Phone: 0987654321
Student Graduation Year: 26
Current courses:
Past courses:

Adding course:

```
-----  
Welcome to the School Management System  
Options menu:  
1. Add Student  
2. Add Staff  
3. Remove Student  
4. Remove Staff  
5. Add Course  
6. Sort Student  
7. Sort Staff  
8. Search Student  
9. Search Staff  
10. Find all Students  
11. Find all Staff  
12. Print Student  
13. Print Staff  
Enter a number from 1 to 13, or 0 to exit: 5  
Are you adding to a student or staff? (student, staff): student  
Enter student id: 10  
Enter course name: CSC_415  
Enter term: Fall_24  
Enter instructor: Bierman  
Enter section: 55555  
Adding Course  
-----
```

```
-----  
Welcome to the School Management System  
Options menu:  
1. Add Student  
2. Add Staff  
3. Remove Student  
4. Remove Staff  
5. Add Course  
6. Sort Student  
7. Sort Staff  
8. Search Student  
9. Search Staff  
10. Find all Students  
11. Find all Staff  
12. Print Student  
13. Print Staff  
Enter a number from 1 to 13, or 0 to exit: 12  
Printing Students
```

```
Student Name: Max
Student Email: email
Student Address: 123
Student Phone: 1234567890
Student Age: 23
Student ID: 10
Student Parent Phone: 0987654321
Student Graduation Year: 26
Current courses:
    Course Name: CSC_415
    Course Term: Fall_24
    Course Instructor: Bierman
    Course Section: 55555
```

```
Past courses:
```

Sorting:

```
-----
Welcome to the School Management System
Options menu:
1. Add Student
2. Add Staff
3. Remove Student
4. Remove Staff
5. Add Course
6. Sort Student
7. Sort Staff
8. Search Student
9. Search Staff
10. Find all Students
11. Find all Staff
12. Print Student
13. Print Staff
Enter a number from 1 to 13, or 0 to exit: 6
Enter field to sort by (name, email, address, phone, age, id, parentPhone, graduationYear): id
Sorting Student
-----
```

Before:

Student Name: John Doe 0
Student Email: test@gmail.com
Student Address: 1234 Elm St
Student Phone: 123-456-7890
Student Age: 20
Student ID: 0
Student Parent Phone: 098-765-4321
Student Graduation Year: 2023

Current courses:

Course Name: Math
Course Term: Spring 24
Course Instructor: Who
Course Section: 1111

Course Name: English
Course Term: Spring 24
Course Instructor: What
Course Section: 2222

Course Name: Bio
Course Term: Spring 24
Course Instructor: Where
Course Section: 3333

Course Name: CSC 340
Course Term: Spring 24
Course Instructor: When
Course Section: 4444

Past courses:

Course Name: Math
Course Term: Fall 23
Course Instructor: Who
Course Section: 111

Course Name: English
Course Term: Fall 23
Course Instructor: What
Course Section: 222

Course Name: Hist
Course Term: Fall 23
Course Instructor: Where
Course Section: 333

Course Name: CSC 220
Course Term: Fall 23
Course Instructor: When
Course Section: 444

Student Name: Max
Student Email: email
Student Address: 123
Student Phone: 1234567890
Student Age: 23
Student ID: 10
Student Parent Phone: 0987654321
Student Graduation Year: 26

Current courses:

Course Name: CSC_415
Course Term: Fall_24
Course Instructor: Bierman
Course Section: 55555

Past courses:

After(there are 6 students id 0-5 not including Max):

Student Name: John Doe 5
Student Email: test@gmail.com
Student Address: 1234 Elm St
Student Phone: 123-456-7890
Student Age: 20
Student ID: 5
Student Parent Phone: 098-765-4321
Student Graduation Year: 2023
Current courses:

Course Name: Math
Course Term: Spring 24
Course Instructor: Who
Course Section: 1111

Course Name: English
Course Term: Spring 24
Course Instructor: What
Course Section: 2222

Course Name: Bio
Course Term: Spring 24
Course Instructor: Where
Course Section: 3333

Course Name: CSC 340
Course Term: Spring 24
Course Instructor: When
Course Section: 4444

Past courses:

Course Name: Math
Course Term: Fall 23
Course Instructor: Who
Course Section: 111

Course Name: English
Course Term: Fall 23
Course Instructor: What
Course Section: 222

Course Name: Hist
Course Term: Fall 23
Course Instructor: Where
Course Section: 333

Course Name: CSC 220
Course Term: Fall 23
Course Instructor: When
Course Section: 444

Student Name: Max
Student Email: email
Student Address: 123
Student Phone: 1234567890
Student Age: 23
Student ID: 10
Student Parent Phone: 0987654321
Student Graduation Year: 26
Current courses:

Course Name: CSC_415
Course Term: Fall_24
Course Instructor: Bierman
Course Section: 55555

Past courses:

Search(Find All does the same thing but returns all matching results):

```
=====
Welcome to the School Management System
Options menu:
1. Add Student
2. Add Staff
3. Remove Student
4. Remove Staff
5. Add Course
6. Sort Student
7. Sort Staff
8. Search Student
9. Search Staff
10. Find all Students
11. Find all Staff
12. Print Student
13. Print Staff
Enter a number from 1 to 13, or 0 to exit: 8
Enter field to search by (name, email, address, phone, age, id, parentPhone, graduationYear): name
Enter search term: Max

Searching Student
Searching by name
Student Name: Max
Student Email: email
Student Address: 123
Student Phone: 1234567890
Student Age: 23
Student ID: 10
Student Parent Phone: 0987654321
Student Graduation Year: 26
Current courses:
    Course Name: CSC_415
    Course Term: Fall_24
    Course Instructor: Bierman
    Course Section: 55555

Past courses:
=====
```

Remove:

```
=====
Welcome to the School Management System
Options menu:
1. Add Student
2. Add Staff
3. Remove Student
4. Remove Staff
5. Add Course
6. Sort Student
7. Sort Staff
8. Search Student
9. Search Staff
10. Find all Students
11. Find all Staff
12. Print Student
13. Print Staff
Enter a number from 1 to 13, or 0 to exit: 3
Enter student id: 10
Searching for student with id: 10
Student found are you sure you want to remove from directory (enter y for Yes):
y
Removing Student
=====
```