

CS203 Project 1 Report
Homework #3
Student's Full name, BlazerId
Name: Mitchell Kimbell
BlazerId: Mkimbell

Introduction

Explain the purpose of the project (1 Paragraph)

The purpose of this project is to implement a system to store data for employees at UAB Hospital. You have to implement a for the user to interact with your system, via things like inputs that lead to different functions that display other things for the user, like the `employeeList()` function. Another aspect of the project was to implement a way to change the current stored data. I added ways to add and delete employees based on user input. Additionally, I had to implement a function to update the actual `uabEmployee.txt` file that stores the original employee data with the changes that were made by the user.

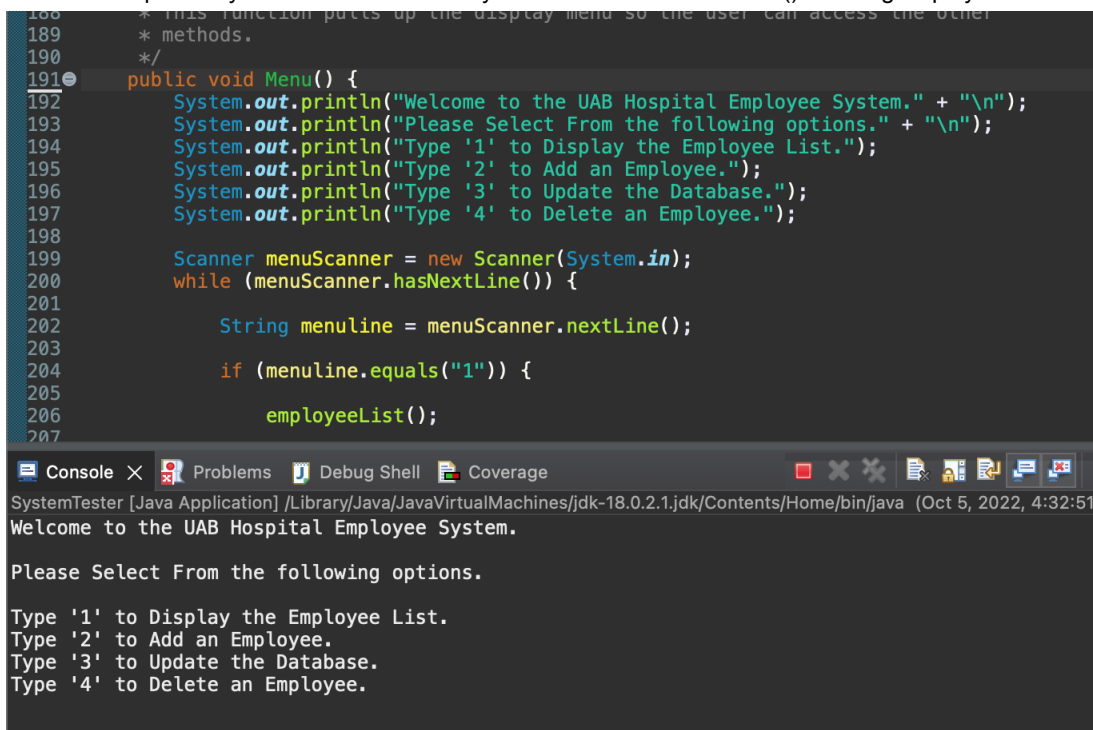
Code Explanation

I created a `ArrayList` for every position. I created a class for every position as well, as well as a "SystemTester" class.. I implemented a `toString` overwrite in `HospitalEmployee` class, and then overwrote it in every every class, with a "super" call to each parent class's "toString". This allows me to implement the `toString()` function for child classes more easily, because it will automatically display the shared data that the parent class has for `toString()`. This will make implementing child `toString` functions less effort and less writing.

I constantly ask for user input in the form of numbers, and this guides the user into which methods they need to be directed towards. The data from `uabEmployees.txt` is automatically processed line by line, made into an Array split by " ", and then based on what letter is located at index 0 of each line, an object is created in the correct position. Additionally, based on the letter located at index 0, it asks for different inputs to match the amount of parameters each position object requires. Getters and setters are made for every variable for every position as well.

Result

This comes up when you first run the code. `SystemTester`'s method `Menu()` is being displayed



```
188 * This function puts up the display menu so the user can access the other
189 * methods.
190 */
191 public void Menu() {
192     System.out.println("Welcome to the UAB Hospital Employee System." + "\n");
193     System.out.println("Please Select From the following options." + "\n");
194     System.out.println("Type '1' to Display the Employee List.");
195     System.out.println("Type '2' to Add an Employee.");
196     System.out.println("Type '3' to Update the Database.");
197     System.out.println("Type '4' to Delete an Employee.");
198
199     Scanner menuScanner = new Scanner(System.in);
200     while (menuScanner.hasNextLine()) {
201         String menuline = menuScanner.nextLine();
202
203         if (menuline.equals("1")) {
204             employeeList();
205         }
206     }
207 }
```

Console X Problems Debug Shell Coverage

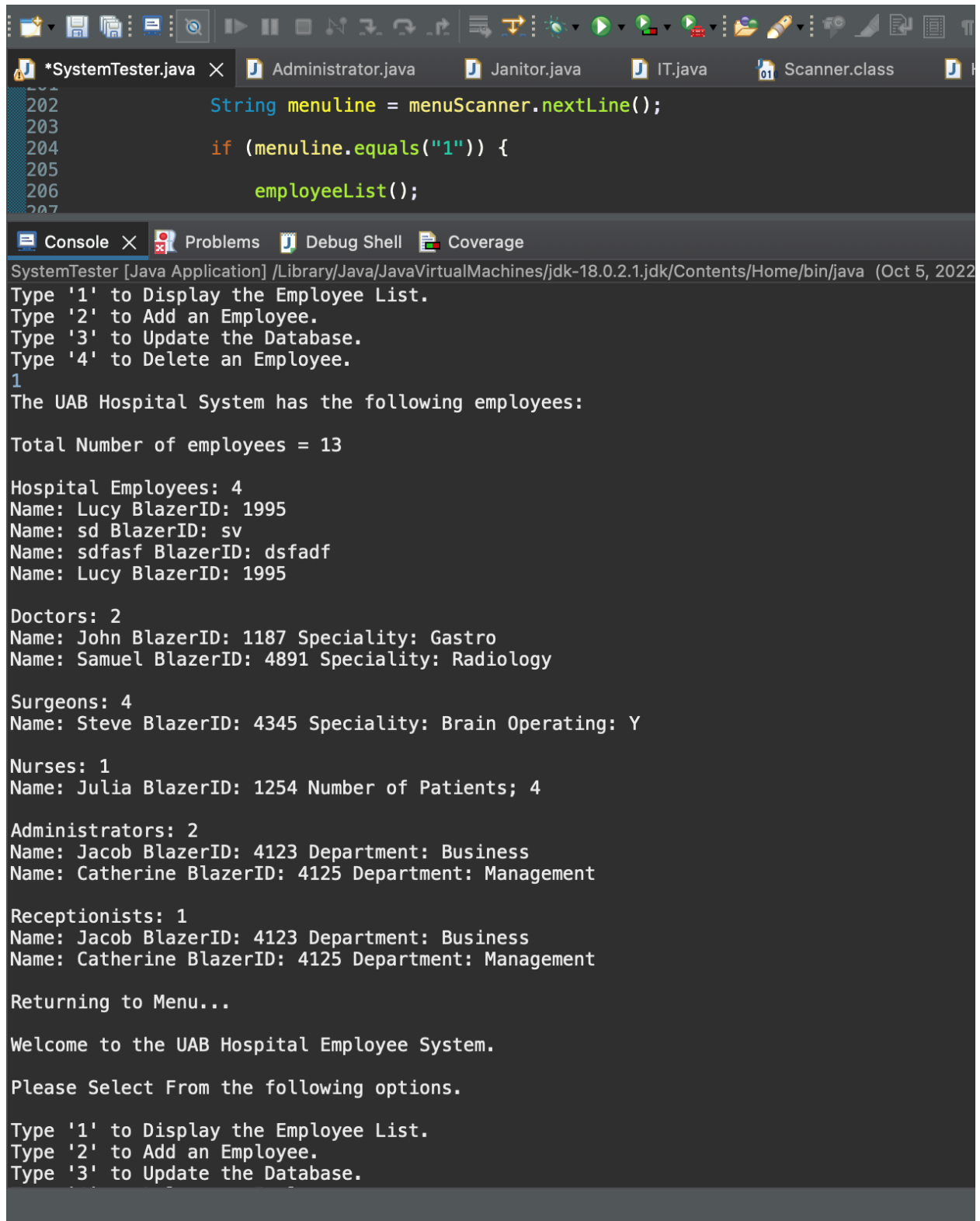
SystemTester [Java Application] /Library/Java/JavaVirtualMachines/jdk-18.0.2.1.jdk/Contents/Home/bin/java (Oct 5, 2022, 4:32:51)

Welcome to the UAB Hospital Employee System.

Please Select From the following options.

Type '1' to Display the Employee List.
Type '2' to Add an Employee.
Type '3' to Update the Database.
Type '4' to Delete an Employee.

Here I enter "1" to see the employee list



The screenshot shows an IDE with a code editor and a console window. The code editor displays a Java file named `*SystemTester.java` with the following code:

```
202     String menuline = menuScanner.nextLine();
203
204     if (menuline.equals("1")) {
205
206         employeeList();
207
```

The console window shows the output of the program:

```
SystemTester [Java Application] /Library/Java/JavaVirtualMachines/jdk-18.0.2.1.jdk/Contents/Home/bin/java (Oct 5, 2022)
Type '1' to Display the Employee List.
Type '2' to Add an Employee.
Type '3' to Update the Database.
Type '4' to Delete an Employee.
1
The UAB Hospital System has the following employees:

Total Number of employees = 13

Hospital Employees: 4
Name: Lucy BlazerID: 1995
Name: sd BlazerID: sv
Name: sdfasf BlazerID: dsfadf
Name: Lucy BlazerID: 1995

Doctors: 2
Name: John BlazerID: 1187 Speciality: Gastro
Name: Samuel BlazerID: 4891 Speciality: Radiology

Surgeons: 4
Name: Steve BlazerID: 4345 Speciality: Brain Operating: Y

Nurses: 1
Name: Julia BlazerID: 1254 Number of Patients; 4

Administrators: 2
Name: Jacob BlazerID: 4123 Department: Business
Name: Catherine BlazerID: 4125 Department: Management

Receptionists: 1
Name: Jacob BlazerID: 4123 Department: Business
Name: Catherine BlazerID: 4125 Department: Management

Returning to Menu...

Welcome to the UAB Hospital Employee System.

Please Select From the following options.

Type '1' to Display the Employee List.
Type '2' to Add an Employee.
Type '3' to Update the Database.
```

It automatically brought me back to the menu, so now I'm going to hit "2" to add an employee.

```
Type '4' to Delete an Employee.  
2  
What is the position title of the new employee? Please type the number that corresponds to the correct position. Or type '9' to return to the menu.  
1: HospitalEmployee  
|  
2: Doctor  
3: Surgeon  
4: Nurse  
5: Administrator  
6: Receptionist  
7: Janitor  
8: IT Team  
9: return to Menu  
New Employee position:
```

Now I'm going to add a Doctor here, so I'll hit "2"

```
New Employee position:  
2  
Please type the name of the employee:
```

I'm going to name him Mitchell

```
Please type the name of the employee:  
Mitchell  
Please type the employee's BlazerId:
```

I enter the BlazerId

```
Mitchell  
Please type the employee's BlazerId:  
mkimbell  
Please type the Doctor's Specialty:
```

I make the specialty Brain

```
mkimbell  
Please type the Doctor's Specialty:  
Brain
```

Now it will tell me that employee's info as it would be displayed in the txt file, and then it tells us its returning to the Menu, then returns to the menu.

Brain

Employee info: [D, Mitchell, mkimbell, Brain]
Employee Successfully Added. Returning to Menu.

Welcome to the UAB Hospital Employee System.

Please Select From the following options.

Type '1' to Display the Employee List.

Type '2' to Add an Employee.

Type '3' to Update the Database.

Type '4' to Delete an Employee.

Lets see it in the list by hitting 1

Name: sd BlazerID: 5v
Name: sdfasf BlazerID: dsfadf
Name: Lucy BlazerID: 1995

Doctors: 3

Name: John BlazerID: 1187 Speciality: Gastro

Name: Samuel BlazerID: 4891 Speciality: Radiology

Name: Mitchell BlazerID: mkimbell Speciality: Brain

Surgeons: 4

Name: Steve BlazerID: 4345 Speciality: Brain Operating: Y

Now lets update the txt file. It is not currently exactly like the original since i have been messing with it.

```
SystemTeste... Administrato... Jan
1 E Lucy 1995
2 E sd sv
3 E sdfasf dsfadf
4 E Lucy 1995
5 D John 1187 Gastro
6 D Samuel 4891 Radiology
7 N Julia 1254 4
8 S Steve 4345 Brain Y
9 A Jacob 4123 Business
10 A Catherine 4125 Management
11 R Alice 4101 Talking Y
12 J David 4789 Maintenance N
13 I Mark 1997 D
14
```

We don't see the new person we added yet since we haven't updated, but i'll hit 3 (update database) now.

```
SystemTeste... Administrato...
Type '3' to Update the Database.
Type '4' to Delete an Employee.
3

Updating database...

Returning to menu.

Welcome to the UAB Hospital Employee System.

Please Select From the following options.

Type '1' to Display the Employee List.
Type '2' to Add an Employee.
Type '3' to Update the Database.
Type '4' to Delete an Employee.

1 E Lucy 1995
2 E sd sv
3 E sdfasf dsfadf
4 E Lucy 1995
5 D John 1187 Gastro
6 D Samuel 4891 Radiology
7 D Mitchell mkimbell Brain
8 N Julia 1254 4
9 S Steve 4345 Brain Y
10 A Jacob 4123 Business
11 A Catherine 4125 Management
12 R Alice 4101 Talking Y
13 J David 4789 Maintenance N
14 I Mark 1997 D
15
```

As you can see, in line 7 the new doctor has been added to the txt file.

Now I am going to delete him, i'm going to hit 4

```
Type '4' to Delete an Employee.
4
Please type the employee's BlazerId:
mkimbell
Doctor removed.

Returning to menu...

Welcome to the UAB Hospital Employee System.

Please Select From the following options.

Type '1' to Display the Employee List.
Type '2' to Add an Employee.
Type '3' to Update the Database.
Type '4' to Delete an Employee.
4
Please type the employee's BlazerId:

Welcome to the UAB Hospital Employee System.

Please Select From the following options.

Type '1' to Display the Employee List.
Type '2' to Add an Employee.
Type '3' to Update the Database.
Type '4' to Delete an Employee.
```

So because I typed Mitchell's blazerID, it removed him from the system, now to save the changes we can hit update database, 3.

```

Type '3' to Update the Database.
Type '4' to Delete an Employee.
3
Updating database...
Returning to menu.
Welcome to the UAB Hospital Employee System.
Please Select From the following options.
Type '1' to Display the Employee List.
Type '2' to Add an Employee.
Type '3' to Update the Database.
Type '4' to Delete an Employee.

```

```

SystemTeste... Administrato...
1 E LUCY 1995
2 AA AA
3 E ARJANI dafadf
4 E LUCY 1995
5 D John 1187 Gastro
6 D Samuel 4891 Radiology
7 N Julia 1254 4
8 S Steve 4345 Brain Y
9 A Jacob 4123 Business
10 A Catherine 4125 Management
11 R Alan 4101 Talking Y
12 J David 4789 Maintenance N
13 I Mark 1997 D
14

```

As you can see, the database was updated and Mitchell was removed

References

List all of the resources you have use

Jesse x2, Tyler x2, Neha x1. Various notes.