

Quiz 5

Name: _____

Consider the class diagram and answer the following questions.

1. Implement the Staff class. Two Staff objects are equal if and only if their names are the same (case-insensitive) and offices are the same (case-insensitive).

```
package quiz.domain.membership;

public class Staff extends SMUCitizen {
    private String office;

    public Staff(String name, String office) {
        super(name);
        this.office = office;
    }

    public boolean equals(Object obj) {
        if (!(obj instanceof Staff)) {
            return false;
        }

        Staff another = (Staff) obj;
        return getName().equalsIgnoreCase(another.getName())
            && office.equalsIgnoreCase(another.office);
    }
}
```

2. Implement the QuizUtility's getStudents method given that the output is as follows:

```
[Don, Frank]
[]
[]
```

```
package quiz.util;

import quiz.domain.membership.SMUCitizen;
import quiz.domain.membership.Staff;
import quiz.domain.membership.Student;

import java.util.ArrayList;
import java.util.List;

public class QuizUtility {
    public static void main(String[] args) {
        {
            List<SMUCitizen> students = new ArrayList<>();
            students.add(new Staff("Ali", "SIS"));
            students.add(new Staff("Boy", "SOA"));
            students.add(new Staff("Carl", "SESS"));
            students.add(new Student("Don", "SOL"));
            students.add(new Staff("Elise", "SOE"));
            students.add(new Student("Frank", "LKCSB"));
            System.out.println(getStudents(students));
        }

        {
            List<SMUCitizen> students = new ArrayList<>();
            System.out.println(getStudents(students));
        }

        {
            List<SMUCitizen> students = null;
            System.out.println(getStudents(students));
        }
    }
}
```

```
public static List<Student> getStudents(List<SMUCitizen> citizenList) {  
    if (citizenList == null) {  
        return new ArrayList<>();  
    }  
    List<Student> result = new ArrayList<>();  
    for (SMUCitizen citizen: citizenList) {  
        if (citizen instanceof Student) {  
            result.add((Student)citizen);  
        }  
    }  
    return result;  
}
```

```
}
```

