

Assessment

STUDENT NAME	
CANDIDATE NUMBER	

You are permitted to use AI tools for specific defined processes within the assessment. You will be required to include a clear acknowledgement of the generative AI tools you have used in your submission.

- Please contact the module convenor if you are at all unsure about what is/is not permitted regarding the use of generative AI tools in this module.

Student Declaration

By submitting this work, I declare that:

- This assignment is my own original work, except where I have used appropriately cited sources, and where I have used the permitted generative AI tool, Microsoft Copilot as allowed for this work.
- I have completed and attached the Acknowledge, Describe, Evidence template as an appendix to my submission.
- I have only used the permitted generative AI tool (Microsoft Copilot) to look up specific elements of algorithms.
- I have not used other generative AI tools.
- I have not sought help from anyone else, nor have I allowed my work to be copied.
- I have not submitted this work as a summative assessment for any other module.
- I will participate in academic misconduct processes, including submitting a statement and/or attending the panel (AMP) as required to confirm the submitted work is my own.
- I understand that it is my responsibility to check that the file I submit is readable and fully complete.

Assessment Task

Use this link to install the Java source code or this task:

[dbarnett404/INPR_POF_Student_Winter_24](#)

This assessment consists of 5 classes and one data file.

You need to complete a number of methods in the supplied classes.

```
class Student
```

Complete the following methods:

```
/**
 * Complete the method that formats the last name to have the
 * first letter in uppercase and the rest in lowercase
 * @return the correctly formatted last name
 */
public String formatLastName() {
    return "";
}
```

[5 marks]

```
/**
 * Complete the method to generate a random 'fake' email address for
 * the student in the Sussex format
 * Format is first letter of first name + first letter of last name
 * + 3 random numbers + @sussex.ac.uk
 * @return
 */
public String generateEmail() {
    return "";
}
```

[5 marks]

```
class Students
```

```
/**  
 * Complete the method to search for a student by name or partial name  
 * @param name - the name or partial name to search for  
 * @return the student if found, null otherwise  
 * - extension task if more than one match return all matches  
 */
```

```
public Student searchStudentByName(String name) {  
    return null;  
}
```

[5 marks]

```
/**  
 * Complete a method that selects a random student from the list with  
 * no repeats  
 * Once all students have been selected - print out a message to  
 * say that all students have been  
 * selected and start selecting again. Use any logical mechanism  
 * to achieve this.  
 * @return the random student  
 */
```

```
public Student getRandomStudentNoRepeats() {  
    return null;  
}
```

[5 marks]

```

public class Menu {
    // Use this array to store the menu options
    // - you must use this array in the code below
    private final String[] menuItems = {
        "Add student",
        "Print students",
        "Save students to file",
        "Load students from file",
        "Select random student with no repeats",
        "Search for student by name",
        "Exit"
    };

    /**
     * Complete the method to display the menu to the user
     */
    private void displayMenu() {

```

[5 marks]

```

    /**
     * Complete the method to add a student to the list
     * @param students - the list of students
     */
    private void addStudent(Students students ) {

```

[5 marks]

```

    /**
     * Complete the method to select a random student from the list
     * with no repeats
     * @param students - the list of students
     */
    public void searchForStudent(Students students) {

```

[5 marks]

```

/**
 * Complete the method so that it:
 * Loops until the user selects the exit option
 * Display the menu to the user
 * Calls an appropriate method in the Students class for each
 * option for:
 * Print students
 * Save students to file
 * Load students from file
 * Select random student with no repeats
 *
 * Implements the functionality for user interaction in the methods
 * Add student
 * Search for student by name
 */
public void showMenu(Students students ) {

}

```

[10 marks]

```

public static void main(String[] args) {
    Menu menu = new Menu();
    Students students = new Students();
    students.addStudentsFromFile();
    menu.showMenu(students);
}
}

```

Additional Criteria

Evidence of Additional Research

Criteria:

- Demonstrates understanding and application of advanced concepts or techniques not covered in the course material. (3 marks)
- Cites relevant sources or documentation to support the implementation. (2 marks)

[5 marks]

Effective Code

Criteria:

- Code is efficient and optimized for performance. (3 marks)
- Uses appropriate data structures and algorithms. (2 marks)

[5 marks]

Correct Use of Java Style

Criteria:

- Follows Java naming conventions and coding standards. (2 marks)
- Code is well-organized, with proper indentation and comments. (3 marks)

[5 marks]

Video Report

As part of this assessment, you also need to submit a screen capture video of you explaining the code.

You can capture your screen and narration easily on a Mac – on a PC you can use Clipchamp which is built into Windows for screen capture.

On a Mac use any appropriate software.

Save your video as a 720p MP4.

Your video must be at least 3 minutes and no longer than 5 minutes. Any time over 5 minutes will not be marked.

Your video must have subtitles and clear sections – ideally the video will also have a transcript. Most software can automatically create subtitles and the transcript.

The video needs to discuss:

- An overview of the key methods you have written including an account of any research and referencing you used.
- An account of any bugs or issues with the code you found and how you solved them and also how you tested that the methods were correct.
- A clear indication of any additional methods you completed.

[20 marks]