

Exam Coversheet

To be completed by the student:

Student number:

Name:

Group/Class:

2412mm132A

To be completed by the lecturer

| | |
|------------------------------------|-----------------------------------|
| Exam Name | Java Fundamentals |
| Exam Code | 1913IN232A |
| Exam Date | 10-01-2022 |
| Time | 13:00 |
| Classroom | Proctored online |
| Length (in minutes) | 120 |
| Academic Year | 2021-2022 |
| Education Period | 2.2 |
| Opportunity/Chance | 2 |
| Examiners | Wim Wiltenburg Mark de Haan |
| Faculty | Engineering, Design and Computing |
| Cluster | ICT |
| Programme + full time/part time | Information Technology fulltime |
| Location | Haarlem |
| Number of pages (incl. coversheet) | 5 |
| Number of questions | 3 |
| Passmark | 55 |

Allowed tools/aids

Computer, Eclipse/IntelliJ/Internet, Pen and Paper

Answer sheet

Additional comments/details

Online communication means not allowed

(* delete if not applicable)

In te vullen door de toetsorganisatie:

Surveillanten:

| | | |
|--|--|--|
| | | |
| | | |
| | | |

Bijzondere voorzieningen:

| Voorziening: | Aantal: | Opmerking: |
|--------------|---------|------------|
| Dyslexie | | |
| A3 | | |
| Overig | | |

Exam Java Fundamentals (Retake)

Monday, 10-01-2022, 13:00 - 15:00

Introduction

You have been asked to submit an end assignment for this course on Moodle as a prerequisite for this exam. This exam will ask you three questions that will be extensions to your end assignment. If the question refers to functionality already (partly) implemented in your end assignment, you can refactor/rewrite it to suit the exam question.

Requirements

The code you submit needs to meet the same requirements as the end assignment. In the end assignment document you can find the instructions.

Submitting your code

Before the end of the exam, submit your code as a zip-file with sources. The file should be named `java-studentname-studentnr.zip`. Upload your zip file to Moodle on the page where you found this document.

Grading

The questions are graded according to the following specification:

| Question | Maximum number of points |
|----------------|--------------------------|
| End assignment | 45 |
| Question 1 | 15 |
| Question 2 | 15 |
| Question 3 | 15 |
| Total | 90 |

Question 1. Filtering the list of showings

Add a `ToggleButton` to your ticket purchasing screen.

When the button is toggled 'on', only the showings that start on today's date should be shown.
When the button is toggled 'off', all showings should be shown.

Make sure the list of showings is always ordered by the starting date and time.

Partial screenshots are provided as an example. The new button is added on the top right of the window.

Date filter toggled off:

The screenshot shows a web application window titled "Fantastic Cinema -- -- purchase tickets -- username: Jack". It has a navigation bar with "Admin", "Help", and "Logout". The main heading is "Purchase tickets". On the top right, there is a button labeled "Show only today" which is currently disabled (greyed out). Below the heading, there are two tables, "Room 1" and "Room2", each displaying a list of movie showings. The showings are ordered by start time.

| Room 1 | | | | | Room2 | | | | |
|------------------|------------------|----------------------|-------|-------|------------------|------------------|----------------------|-------|-------|
| Start | End | Title | Seats | Price | Start | End | Title | Seats | Price |
| 09-01-2022 20:00 | 09-01-2022 23:30 | No time to lie | 200 | 12,00 | 09-01-2022 20:00 | 09-01-2022 21:32 | The Addams Family 19 | 100 | 9,00 |
| 09-01-2022 22:30 | 10-01-2022 00:02 | The Addams Family 19 | 200 | 9,00 | 09-01-2022 22:00 | 09-01-2022 23:48 | Additional movie | 100 | 13,25 |
| 09-01-2022 22:30 | 10-01-2022 00:18 | Additional movie | 200 | 13,25 | 09-01-2022 22:00 | 10-01-2022 01:30 | No time to lie | 100 | 12,00 |
| 10-01-2022 20:00 | 10-01-2022 23:30 | No time to lie | 200 | 12,00 | 10-01-2022 20:00 | 10-01-2022 21:32 | The Addams Family 19 | 100 | 9,00 |

Date filter toggled on:

The screenshot shows the same web application window as before, but the "Show only today" button is now enabled (blue). The tables "Room 1" and "Room2" show only the showings that start on 10-01-2022, as the date filter is toggled on.

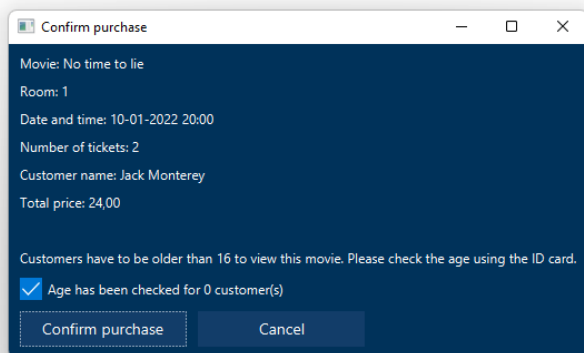
| Room 1 | | | | | Room2 | | | | |
|------------------|------------------|----------------------|-------|-------|------------------|------------------|----------------------|-------|-------|
| Start | End | Title | Seats | Price | Start | End | Title | Seats | Price |
| 10-01-2022 20:00 | 10-01-2022 23:30 | No time to lie | 200 | 12,00 | 10-01-2022 20:00 | 10-01-2022 21:32 | The Addams Family 19 | 100 | 9,00 |
| 10-01-2022 22:30 | 11-01-2022 00:02 | The Addams Family 19 | 200 | 9,00 | 10-01-2022 22:00 | 10-01-2022 23:48 | Additional movie | 100 | 13,25 |
| 10-01-2022 22:30 | 11-01-2022 00:18 | Additional movie | 200 | 13,25 | 10-01-2022 22:00 | 11-01-2022 01:30 | No time to lie | 100 | 12,00 |

Question 2. Age check

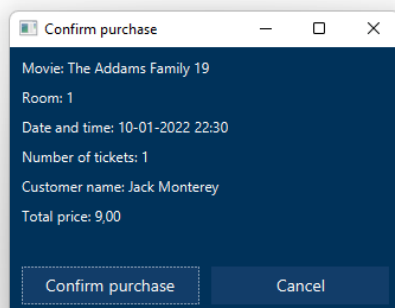
As is written in Dutch law, some movies can only be seen by people older than 16. For these movies, cinemas should check the age of the visitor by looking at their ID card.

1. Add a variable with getter and setter to your Movie class to determine whether the age has to be checked (for 16+ movies). Set this variable to true for one of the movies.
2. In the purchase confirmation dialog, show a checkbox for the age check only for movies that have this variable set to true. The purchase can then only be completed when this checkbox is checked.

Screenshot of a movie that requires the age check:



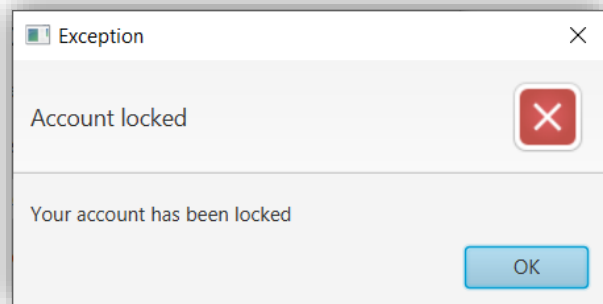
Screenshot of a movie that does not require the age check



Question 3. Login screen

Write a custom exception named "AccountLockedException". The user can enter incorrect credentials 3 times. If the third attempt is not correct, the AccountLockedException should be thrown.

When the AccountLockedException is thrown, it should be handled by displaying an alert dialog to the user with an OK button:



After clicking the button, the application should exit.

Note: It is not needed to actually lock the user account.