Introduction To Programming: Independent Investigative Effort 9

Due: See Canvas→Assignments for due dates, marks and submission link.
Obtaining help method 1: Create a post in the corresponding Canvas→Discussions→IIE forum, post a screenshot of your preliminary/faulty along with a brief explanation and your tutor will help in a general way. Debugging will still need to be done by the student as it is an important aspect of programming.
Obtaining help method 2: Weekly tutor chats (not to be confused with 'live lecture') of this week will give directions (not solutions) on how to approach this IIE. Check recordings if you cannot attend.
Getting feedback: For specific questions asked, you will receive feedback via the forum within 1-2 working days by your group tutor. If you ask during a tutor chat, you would receive feedback immediately.
Late submissions: Accepted for up to 1 week with an automatic 10% penalty for each day late (unless special consideration received).
Solution: Solution, recommended approach, common mistakes to avoid, etc. for main tasks will be shown during the weekly live lecture that starts at the time of submission.
Marks: IIEs are not tests. Marks are given based on effort and not on correctness. Marks turnaround time is approx. 10 working days after submissions close.
Access issues: For non-programming technical issues (relating to infrastructure, passwords, etc.) please call the RMIT IT Service and Support Centre for quick help on 03-9925 8888 and remember to ask for a reference number and pass it on to your instructor.
Extensions: For all new extensions, apply for special consideration online. Contacting your tutors, instructors first will lead to delays.

Please follow/complete all steps below in the given sequence:

1. Check your official @student.rmit.edu.au email account for announcements and other communication from the university. If getting in touch with your instructors, please only use this account (not Canvas inbox, messages, personal email, phone, Microsoft Teams, etc.)

2. Watch any unwatched recordings of the **Weekly Live Lecture** and complete all missed tutorials **before going further**.
For your convenience, the time stamps of recordings are sent via student email/Canvas→Announcements.

3. Is there something that you have not fully grasped from what has been covered so far? Please have your doubts clarified via one of the relevant forums under Canvas→Discussions. Leaving gaps has shown to be severely detrimental to learning.

4. Did you want to make any additions to the previous IIE? Please do by replying to your original post. i.e. do not edit, change the images of existing posts as it affects submission timing.

5. This week's programming task will cover concepts required by Assignment 3. You should aim to get the help of your tutors and make further revisions.

Coding exercise steps (Hint: Need help? Ask your tutor via Canvas→Discussions→"IIE08"):
Complete the 25/Jan/2021 solution first as this extends upon that work. Next follow Canvas→Modules→Week 9 where the topics of creating multiple classes is continued. **Your tutors will provide further explanations on these general topics and how they relate to this IIE during their weekly "tutor chats"**. Please also follow the announcement 'How to debug large programs and get help on debugging...'

a) In this week's IIE, modify your own adaptation of the IIE08 student manager (which has to be different to the student manager) so that, instead of having multiple arrays to the different fields of a record (e.g. name, age, etc. of a student), a single array is created of a class that you have created (e.g. Student).

The class that you create (e.g. Student) should follow naming conventions for classes as given in class materials. The fields should now be private object member variables of the students but these must not be arrays.

You must also think of what should be constructor parameters.

[Side note: The concepts of packages, polymorphism, inheritance (parent-child/super class-sub class relationships), abstract classes, interfaces, etc. are not covered in Intro To Programming and therefore must not be used in assessments. Subsequent courses such as Programming 1, Further Programming, etc. will cover these in detail.]

Submission Checklist for Step 5 (see also step 6):
a. Ensure steps above have been followed in sequence.
b. Ensure that there are no red dots (compilation errors) in your code. Code with red dots are not valid Java and cannot be marked.
c. If you have not made a final submission for your Assignment 3, make a dummy submission for Assignment 3 by submitting **your .java file to Canvas→Assignments→Assignment 3.** Remember, you can overwrite this submission any time when you have a proper submission for your assignment.
d. Take screenshots of the code and the running program (as you did for IIE01) and embed the **screenshots in a post under Canvas→Discussions→Independent Investigative Exercise 9**. If you are unable to embed screenshots, please follow the announcement 'Having issues embedding images? Here's the alternative...' The mark for this week's work will be given based on this submission.

e. Download your own file(s) from the discussion forum and ensure that it is correct. If it is not, you can edit/delete your post and retry.

6. Reply to your post(s) from Step 5/Exercise 5 of this IIE, and complete the following:

a. Assume that you are required to add another class to your project's "back end" set of classes. What are the DO's and DON'Ts of adding/removing further/existing classes?

b. Discuss how you would add another class to your project and explain: The name of the new class, what purpose it would serve, what changes you would need to make to the rest of the code.

c. Peer exercise: Now reply to a classmate's post on the above and discuss with them some ideas. If you receive any interesting ideas, feel free to incorporate them.