

Homework 4
Control Structures

1. (3 pts) Java supports multiple selection statements, for example, using

if **else** if else.

a) If the first else (red **else**) was not included in the statement, to which if (first or second) is the remaining else associated?

- i. Create and execute a Java program that illustrates your responses. Title this program Task1a.java
- ii. Answer in a document the question and explain how your code supports your statements

b) Describe how would you modify the construct so the second else is associated with the other if?

- i. Create and execute a Java program that illustrates your responses. Title this program Task1b.java
- ii. Answer in a document the question and explain how your code supports your statements

2. (2 pts) In short-circuit evaluation of an expression the result is determined without evaluating all of the operands and/or operators. Consider an *if (boolean expression) else* selection statement in Java.

a) Does Java support short-circuit evaluation of the boolean expression? Add to the Java program you created in problem 1 above to support your response.

- i. Create and execute a Java program that illustrates your responses. Title this program Task2a.java
- ii. Answer in a document the question and explain how your code supports your statements

b) If Java does not support short-circuit evaluation, add a code segment which enforces short-circuit evaluation. If Java does support short-circuit evaluation, add a code segment that enforces full evaluation.

- i. Create and execute a Java program that illustrates your responses. Title this program Task2b.java
- ii. Answer in a document the question and explain how your code supports your statements

3. (2 pts) Problem 5 (Programming Exercises Chapter 8, page 363) from the textbook (the question with goto reject)
- Create and execute a Java program that illustrates your responses. Title this program Task3.java
 - Create and execute a program in a language different from Java that illustrates your responses. Title this program Task3...
 - Answer in a document the problem and explain how your code supports your statements. In addition, compare the two languages

To submit (1 pt):

- Create a folder titled LastNameTask5
- In the folder create a subfolder named Code. Place all sources files for all tasks in the Code subfolder
- Create a single document (pdf only etc.) Place the written answers to all the problems and questions in this single document. Make sure each problem and part are clearly labeled. Include your name at the beginning of the document.
 - Title this document LastNameTask5Answers
 - Save this document in the LastNameTask5 folder
- Zip the LastNameTask5 folder
- Submit the zip through the assignment mechanism.