Java Fundamentals
2-3: Procedures and Arguments
Project

This project will progress with you throughout the course. After each lesson there will be more to add until it builds into a complete animation that you can upload to YouTube or export as a local animation file.

Lesson Objectives:

- Toggle between, and describe the visual differences between, the Scene editor and the Code editor
- Locate and describe the purpose of the methods panel and the procedures tab
- Use procedures to move objects
- Add Java programming procedures to the Code editor
- Demonstrate how procedure values can be altered
- Create programming comments
- Reorder, edit, delete, copy, and disable programming statements
- Test and debug an animation

Instructions:

1. Open Alice 3 on your computer.
2. Either using the My Projects tab or the File System tab, browse for and open the Fish_2.a3p file.
3. Using the Save As command from the file menu, rename the file to Fish_3.a3p.
4. If you are not already in the code editor use the Edit Code button to go to the code editor. You are going to create code blocks made up of multiple procedures and manipulate the arguments to achieve your desired outcome.
5. Add a do in order statement to the code window. This will be used to group our existing programming statements together.
6. Drag the two programming statements into the do in order control statement by clicking on the grey section on the left of the code line and dragging and dropping them into the control statement.
7. Choose the clown fish from the object list using the arrow button.
8. Add another do in order control statement under the existing code.
9. Add a move procedure for the clown fish to the second do in order statement. Use Forward as the direction argument and we'll use 2.0 as a placeholder value for the distance.
10. Test the code by running the animation. You don't want the clown fish to collide with the Blue Tang fish!

11. The two fish collide so you need to change the distance value. Click on the arrow beside the distance argument value and choose Custom Decimal Number. On the keypad input the value of 1.5 and click OK.
12. Retest the code.
13. If it is still too close, change the value to 1.2.
14. We want to turn the fish around to point in the opposite direction. Drag a turn procedure and choose left and 0.5 as the arguments. Place it under the move statement.
15. Using the CTRL key and the mouse drag the clownFish move procedure under the turn procedure. This will give you a copy of the move procedure line of code.
16. Do the same for the turn procedure but change the direction to RIGHT. You should have a move, turn, move, turn code block.
17. To test to see if the clown fish swim block of code works disable the BlueTang code by right clicking the grey section of the do in order statement and un-ticking the is enabled option.
18. Once you have tested the code re-enable it using the same steps.
19. It is important to comment your code to explain its functionality. Drag a comments box to the top of both of the do in order statements and add appropriate comments.
20. Save your program.
21. Exit Alice 3.