Java Fundamentals
2-12: Develop a Complete Animation
Practice Activities

Lesson Objectives:

- Use keyboard controls to manipulate an animation
- Use functional decomposition to write a scenario and storyboard
- Complete an animation
- Test an animation
- Reposition objects at runtime
- Plan the presentation of a completed animation project

Vocabulary:

Identify the vocabulary word for each definition below.

	A document that ensures that your animation meets all animation principles.
	A series of illustrated images that represent the main scenes of the animation.
	The methodical process of identifying a complex problem and breaking it down into smaller steps that are easier to manage.
	The story that gives the animation a purpose.
	The process of finding and eliminating bugs in a software program.
	Statements that clearly identify the purpose or the functionality of blocks of programming statements in your program, but do not affect the functionality of your program.
	A list of actions to perform a task or solve a problem.
	The process where the software program converts your code into the animation that you see.
	A detailed, ordered list of actions that each object performs within each scene of the animation.

Try It/Solve It:

1. Define a scenario for a complete animation.
    a. Define a scenario for a rabbit and meadow scene animation that includes all concepts learned in this course.
    b. Plan to include all of the following features in your animation:
        i. Complete scene of multiple objects from multiple classes, including props and shapes
        ii. Declared procedures
        iii. Movement procedures
        iv. Object rotation and object subpart rotation procedures
        v. Simultaneous movement with the Do Together control statement
        vi. Vehicle riding with the setVehicle procedure
        vii. Functions
        viii. IF and WHILE control statements
        ix. Random numbers
        x. Math expressions
        xi. Variables
        xii. Keyboard controls

2. Design a storyboard for a complete animation.
    a. Create a storyboard for a rabbit and meadow scene animation that includes all concepts learned in this course.
    b. Use the scenario you created in the previous activity to help develop your storyboard.

3. Program a complete animation.
    a. Optional: Open the "WhiteRabbitProject" project file. You can start from this project or start a new project from scratch.
    b. Program a complete for a rabbit and meadow scene animation that includes all concepts learned in this course.
    c. Use the scenario and storyboard you created in the previous activity.
    d. Review the checklist for animation completion below. Use this checklist to ensure your animation is complete.
    e. Save the project.

4. Test and debug a complete animation.
    a. Test, edit, and debug the complete White Rabbit animation project.
    b. Add programming comments to each section of code in the code editor.
    c. Save the project.

5. Reposition objects at runtime.
    a. Add the addDefaultModelManipulation procedure into the initializeEventListeners code editor.
    b. Test the animation, repositioning objects at runtime.
    c. Save the project.

6. Upload your animation to YouTube.
    a. Use the facility in the file menu to upload your animation to Youtube using your Youtube account.
    b. Save a copy of your animation as a local file on your machine.

7. Present a complete animation.
    a. On your own or with your project group, plan, practice and deliver a presentation of your complete Alice 3 animation. Show all aspects of your animation and show how each concept learned in this course was used in your complete Alice 3 animation project.