

Introduction to Alice

Alice is named in honor of
Lewis Carroll's *Alice in Wonderland*



Alice

- A modern programming tool

 - ▶ 3-D graphics

 - ▶ 3-D models of objects

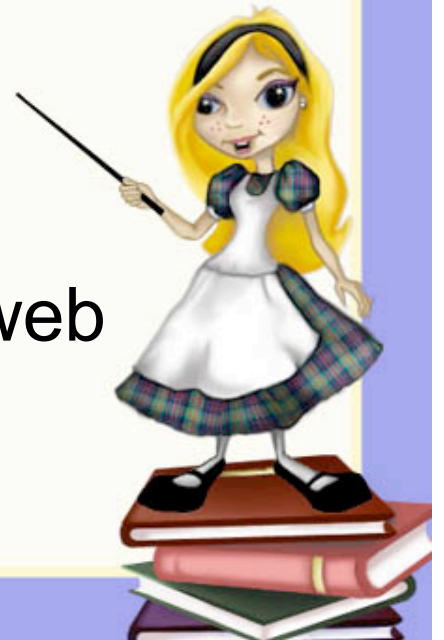
- Animation

 - ▶ Objects can be made to move around the **virtual world** (a video game or simulation implemented in 3-D)

- Use the software from the CD

- Can download latest version from the web

www.alice.org



Demo: Getting started

- 🌐 Starting Alice
- 🌐 Load and run a world
 - 🎥 Octopus (movie)
 - 🎥 Skater (interactive)



Kinds of Animations

Two kinds of animations:

Movie

 Passive user watches the animation

Interactive

 Active user clicks on mouse, types a key on keyboard ...

 Actions of user are called **events**



Demo: A new world



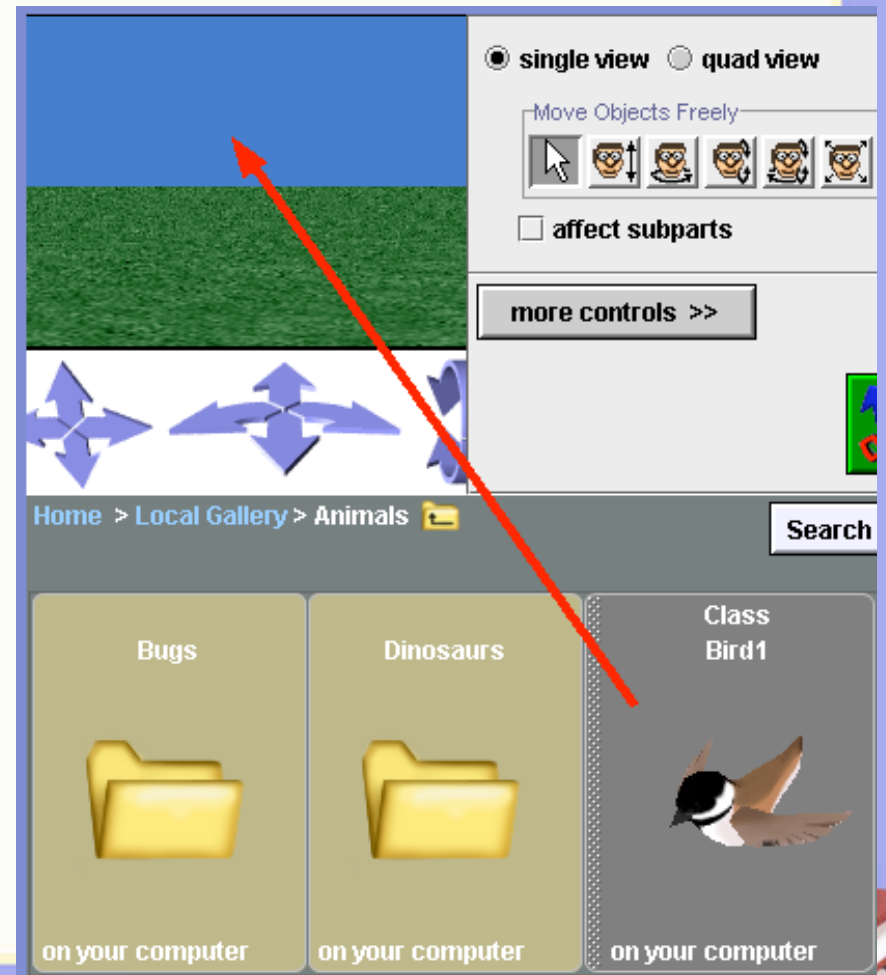
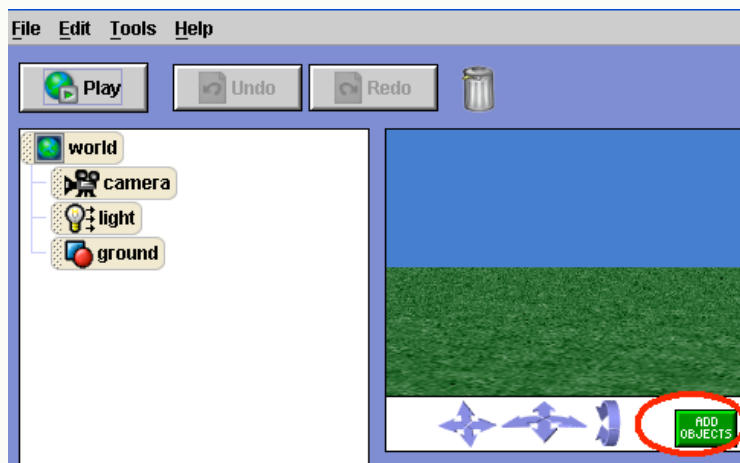
🌐 Create a new world

👤 File → New

👤 Choose template

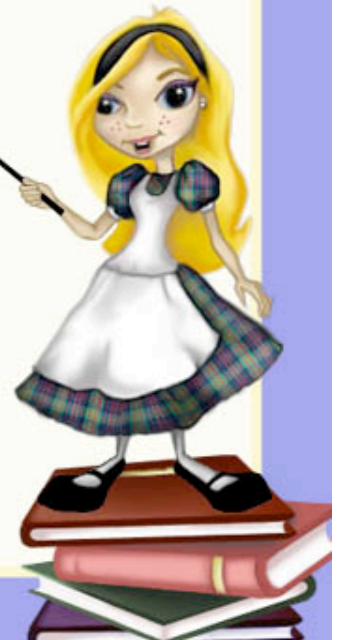


Demo: Adding objects



Techniques and Tools

- **Mouse** is used to
 - ▶ approximately position objects in the scene
- **Camera Navigation** is used to
 - ▶ set the camera point of view
- **Drop-down menu methods** are used to
 - ▶ resize objects
 - ▶ more precisely position objects in the scene
- **Quadview** is used to
 - ▶ position one object relative to another object



Objects

🌐 An "**object**" is

🔧 any thing that can be identified as unique from other things

🌐 How is an object unique?

🔧 has a name

🔧 has properties:

💡 width, height, color, location

🔧 can perform actions (methods):

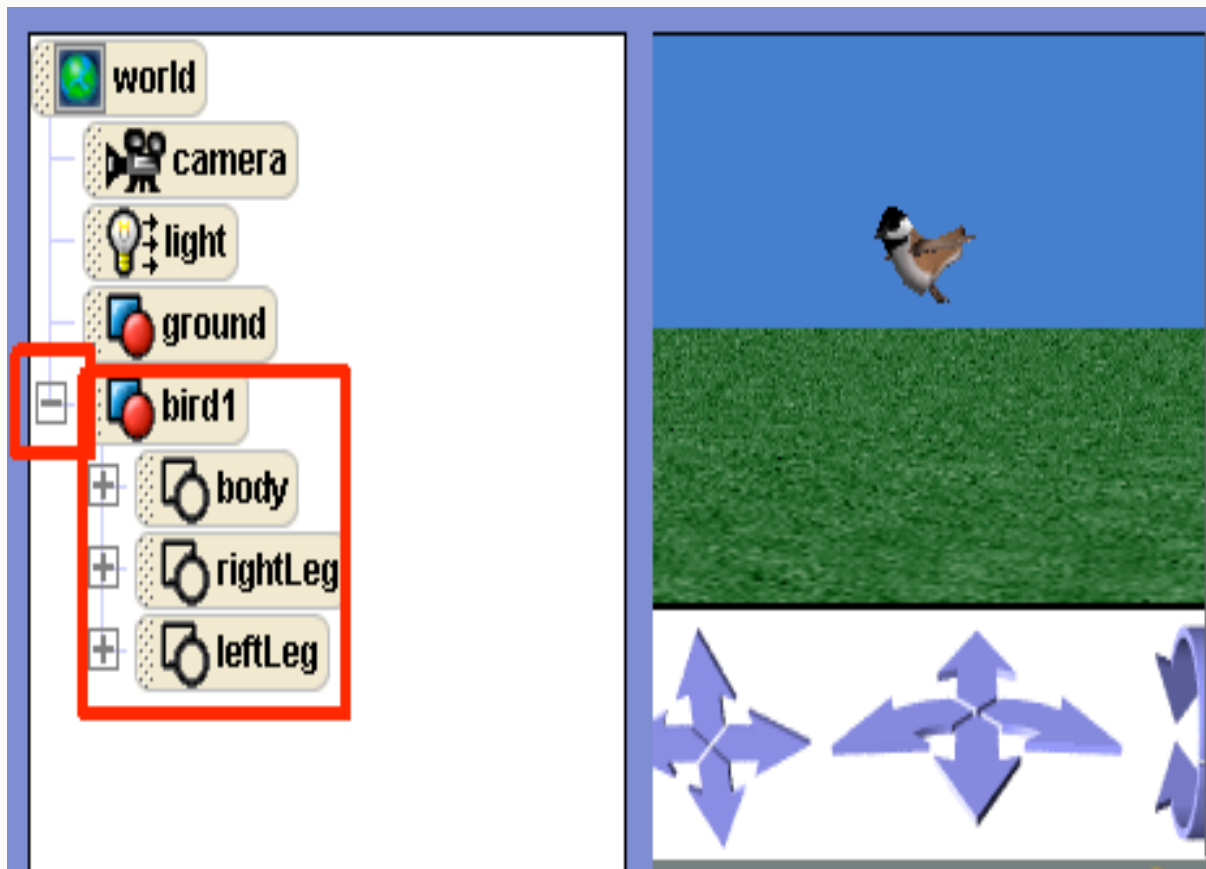
💡 associated actions it can perform

💡 tasks it can carry out



Object Parts

- Objects may be composed of parts



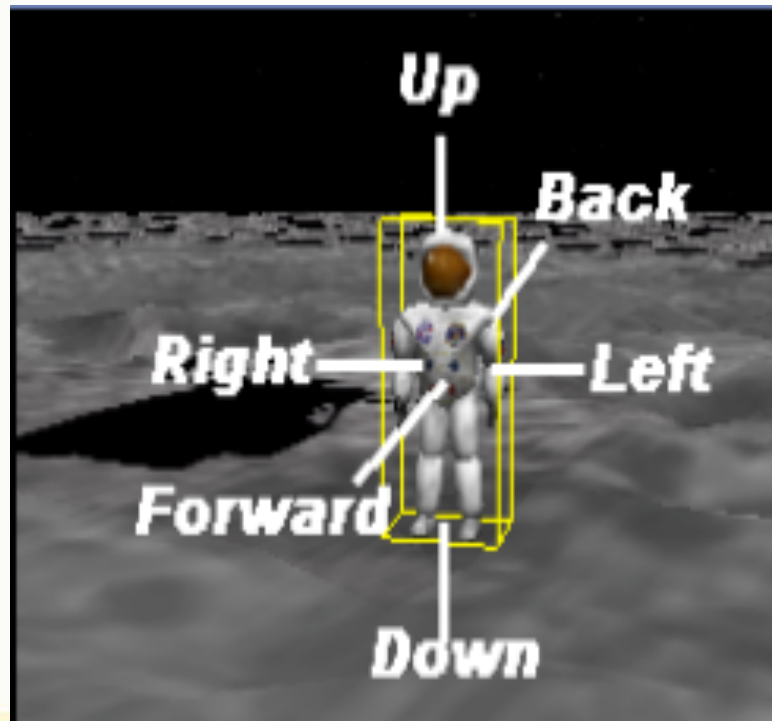
3 Dimensions, 6 Directions

🌐 A 3D object has

👤 3 dimensions

💡 height, width, depth

👤 6 degrees of freedom (directions of movement)



Center of an object

At the center of mass

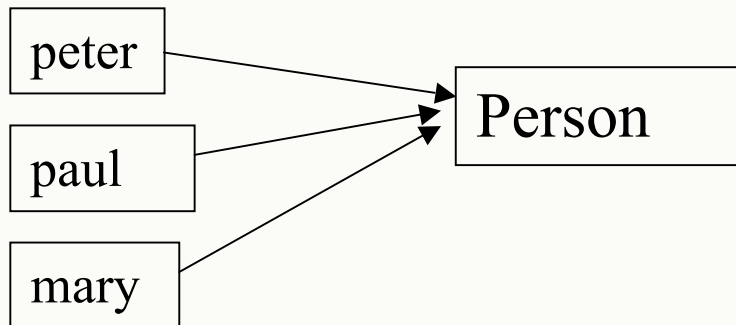
Where it stands on the ground

Where it is held

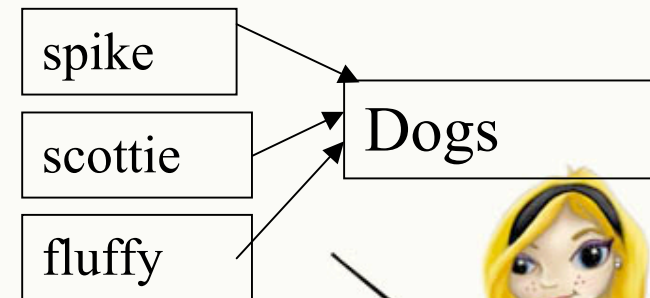


Class

- Objects are categorized into classes



- Each object is an **instance** of the class.



- All objects in a class have similar properties and generally can perform the same tasks.



Galleries

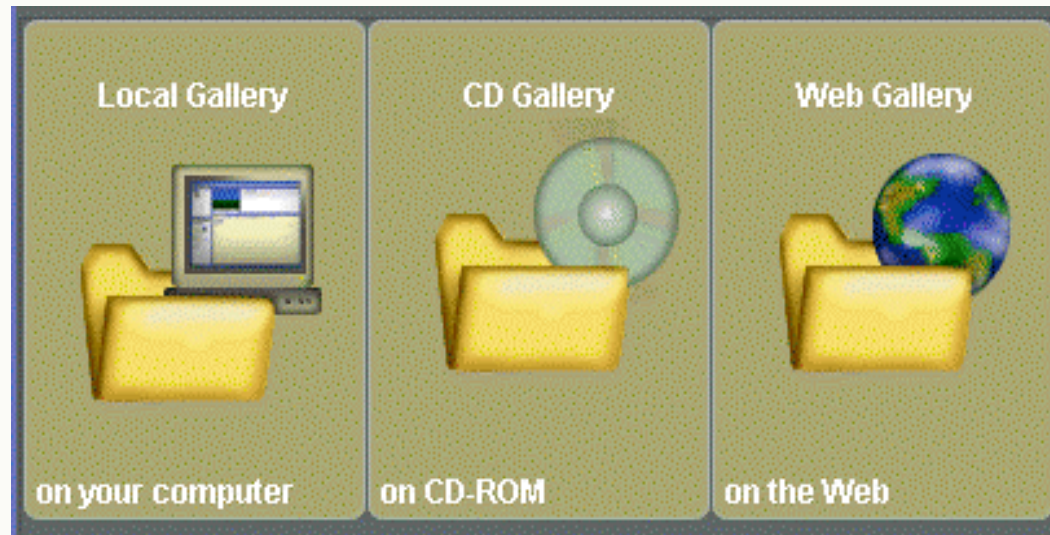
🌐 Classes (3D models) are found in the galleries

🔍 **Local** gallery (installed with the software)


💡 Minimum or complete options

🔍 **CD** Gallery (**only if CD is in the machine**)

🔍 **Web** gallery



Demo: Saving a world

 Writing and testing an animation is an intense load on the computing system – a crash can occur.

Best solution:

 **save your world every 15 minutes**

 **(Or at least every half hour)**

 **also save to a backup system**

(for example, a zip disk or memory key)



Assignment

🌐 Read (**before** the next class session)

Chapter 1

- 💡 Section 1, Introduction to Alice
- 💡 Section 2, Alice Concepts
- 💡 Tips & Techniques 1, Special Effects



Lab

- 🌐 Appendix A, Getting Started – Parts I & II
- 🌐 Exercises from Chapter 1
- 🌐 Notes:

💡 Lab exercises and projects require that you demonstrate the code and execution of your programs to the instructor or the TA

💡 Your lab sheet must have the signature of the instructor or TA for each assigned exercise and/or project. Otherwise, you will not get credit for having completed the lab!

