Taken from Learning to Progam with Alice Chapter 4

Class Methods

You may download SkaterWithPenguin.a2w. We will write new methods that define new actions that the skater can carry out alone. These methods will be built upon existing methods for the skater

We will first teach the skater how to skate. An overview of the skate method

Do together:

Move skater forward 2 meters duration 3 secs.
Do in order
slideLeft (slide on left leg)
slideRight (slide on right leg)

Further refinement of slideLeft

Do in order:
    Do together:
        turn rightLeg forward .1 rev dur .5
        turn upperBody forward .01 rev dur .5
    wait .5sec
    Do together:
        turn rightLeg backward.1 rev dur .5
        turn upperBody backward .01 rev dur .5

The slideRight can be created likewise, using the leftLeg instead.

We can also create a class method that accepts a parameter. A spin has 3 parts, preparation, spinning, and finish. We can use a parameter to tell the method how many revolutions we want the skater to turn.

spin
Parameter : howManySpins
Do in order:
    prepare to spin
    spin the skater around howManySpins
    finish the spin

prepareToSpin
Do together:
left arm turn backward .5 rev
right arm turn backward .5 rev
left leg turn left .2 rev
left leg turn backward .25 rev

For finishSpin, reverse the directions on prepareToSpin. For the actual spin the ice skater turn left howManySpins revolutions.

Writing a class level method involving another object.

For the cleverSkater, create a new method skate around.
parameter of type object, named whichObject
Do in order:

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    Do together:
        Turn to face whichObject dur .5
        rightLeg turn forward .1 rev dur .5
    move forward (cleverSkater distance to whichObject -1_
    turn right .25 rev dur .25 sec
    turn left 1 rev asSeenBy whichObject
    rightLeg turn backward .1 rev dur. 5
```

Test with the penguin.

Saving the cleverSkater as a new class

Rename the object, cleverSkater.
Save the object as a new class, either in the Alice folder or your personal folder. Now the class can be imported and used in other worlds.
Create a new world using snow template, frozen lake (environments) and wintersky (environments, skies) from environments and igloo((buildings). Add three objects of your choice. Go to File Import to bring in cleverSkater. Have the world my first method test each one. Try changing the order.

A peek at event programming.

Add event, on mouse click, invoke skater skateAround, with the parameter " the object that was clicked"

Suggested Exercise

For the clever skater, create two more methods, skateBackward and jump. Skate backward would be similar to skateForward but the slideforward would be slide backward. In jump the skater should move forward, lift one leg, move upward, move back down and lower her leg. Create a new class called EnhancedCleverSkater. Start a new world with the skater, frozen lake, penguin and duck. Call all of the methods and have the skater skate around the penguin, then the duck.

Suggested Project

Choose an animal or person from one of the galleries. The object selected must have at least two legs, arms, and/or wings than can move , turn, and roll. Write three class level methods that substantially add functionality to the objects of that class. Use Save Object to create a new class. Create a new world, add instance of new class and create animation to demo new methods.

Guidelines

1. Do create many different class level methods. They can always be combined.
2. Play a sound in a class level method only if the sound had been imported for the object (not the world).
3. Do not call world-level methods from a class-level methods.
4. Do not use instructions for other objects in a class level method.