**Notes on Alice**

**General Notes**

* You may download Alice 2.2 to your PC or Mac. You can download it from Alice.org. It is free and easy to install. You can also use Alice on in either of the two CIS labs on the 3rd floor of JMH. The rooms are usually open 9-5, M-F.
* You will need to save any Alice files that you want to keep. Each animation you make will generate just a single file, so it will be easy to save. It is best to save it on a flash drive, which you should try to bring to class. You can also email it to yourself, but occasionally that does not work, often due to the mail program. If you email it to yourself, make sure you receive it as an attachment. The file extension should be .a2w and nothing else. If your mail program compresses it, then you will need to uncompress it.
* To run an Alice file, you cannot just double click on it and expect the Alice program to open up and execute it, like you can expect MS WORD to open up when you double click on a .doc file. Instead, you must run the Alice program and then use File-> Open.
* In class we will do all 4 Alice tutorials. When you run Alice, it will ask you if you want to do the tutorials. You can always run them again outside of class if you forget how to use Alice or get stuck.
* It is possible that the tutorial will hang during your session. It is not that common, but does occasionally happen. If that happens, restart the tutorial or look on with someone else.
* Save your work frequently and save multiple versions. Otherwise, if a file gets corrupted, you will have to start all over.
* If you want to see some examples from former students, go to the url below. This will give you some examples of what your project should look like. But note that I tended to post only the best animations, so do not be intimidated.  
  http://storm.cis.fordham.edu/~gweiss/alice.html

**Overview of Object Oriented Programming**

* Alice allows you to do object-oriented programming, without being an expert programmer. You use a drag-and-drop interface to do the programming.
* Object-oriented programming is based on the idea that the world is made up of objects. You are an object, your chair is an object, your ear is an object, your grade in this class could be considered an object, etc. Objects of the same type make up a class. Thus, we might have a class called “people” with object Mary, John, etc. In Alice we focus on objects more than classes, but realize that rather than an object hierarchy or object tree, we really have a class hierarchy. For example, Animal might be one class and it may have subclasses “Human”, “Dog”, etc.
* Each class/object has methods or functions that are associated with it. Objects in the class “nose” might have the methods “Sneeze”, “wiggle”, “blow”, etc. This should make it easier for you to find the method you want to use and to invoke it in a program.
* In most cases you do not want a method (function) to do just one thing. For example, the walk method could be coded to have the person walk exactly one step. But then we would need to invoke it 20 times to have the person walk 20 steps. To avoid this, methods take arguments. Although these are not written in Alice as functions, you are essentially calling walk(20) to walk 20 steps.
* Alice will allow you to create your own methods. Why would you do this? One reason is if you need to do something again and again. Instead of invoking the same 20 lines of code again and again, you can write one function and then call it repeatedly. Knowing exactly what to make a method is not always an easy decision and may require experience and a great deal of thought. Object-oriented design can be quite difficult. Also, you want to make sure that methods are attached to the appropriate class. The tutorials makes some questionable decisions in this regard, although the focus here is just getting things to work quickly.

**Your Project: Creating your Original Animation**

* Your Alice project is due on 11/29. You can email it to me or have me copy it from your flash drive during the day. The majority of the project will need to be completed outside of class.
* The gallery that comes with Alice 2.2 has lots of content. But if you go up one level, you can then access a gallery on the web. It is about the same size as the local gallery, but has different objects to add.
* Note that you may want objects to appear later in your animation. What I did was to put some objects off screen (i.e., far to the right of the initial scene) and then moved them into view. Similarly, you can have your people move into another scene (although I think you can only have one background, there are essentially backgrounds that you can add as objects).
* Your project must be an original animation. It should take you a minimum of 3-5 hours to create. You can view the sample animations from the url listed earlier to get an idea how long the animations should be, but realize those are a bit longer and more complex than the ones that did not get posted. It is not just the length that matters, but the complexity of what you do. Here are some things you can do to make the animation more sophisticated (try at least some of these):
  + Have some actions occur simultaneously, rather than each action occurring separately
  + Use scrolling text to identify yourself and take credit for your work
  + Change the camera angles to make the animation more cinematic and dramatic
  + Incorporate sound effects and music
  + Maybe incorporate interactivity (via mouse clicks), but if you do this, make sure it is clear to the user what to do
* Most importantly, have fun! We will also vote on the best animations in our end of year award show (the Allie’s).