

Final Project Design

You must submit this entire document along with the corresponding Alice file at each phase of the design. You will add to both the document and the Alice project at each step. By the last week of the semester, your project will be almost complete.

Save this file as Lastname_Firstname_FinalProject.docx
Do Not delete any part of this document or reformat it.

Step 1: Final Project Proposal: Fill out lines 1.A to 1.H on this form. Start the program and complete steps 1.I, 1.J and 1.K in the Alice program.

1.A: Your name: Janet Joy

1.B: Title of story: Jack in the Beanstalk

This must be a known story featuring people or other bipeds! (In Alice, Bipeds stand on two legs. In addition to people the Wolf, Pig, Rabbit and a few other characters are bipeds.) Link to the website where this story can be found.

1.C: Link: https://en.wikipedia.org/wiki/Jack_and_the_Beanstalk

1.D: Synopsis: A synopsis of the story you are going to tell. Write the synopsis as 5 or 6 sentences that give the major events of the story.

1. Jack's poor widowed mother tells him they are starving.
2. Jack's mother tells him to trade the cow for food to eat.
3. Jack takes the cow to the market and trades it for magic beans.
4. The beans grow into a beanstalk that reaches the castle of a giant.
5. Jack climbs the beanstalk and steals a goose that lays golden eggs.
6. The giant chases Jack, but Jack chops down the beanstalk.
7. Jack and his mother grow rich and live happily ever after.

1.F: Your movie must have 3 different locations (Cottage, Forest, Town, Palace, etc.) List the locations here:

1. cottage
2. market
3. giant' castle

Your movie will be interactive.

1.G: Give an alternate ending that could result based on the user clicking something.

Jack does not trade the cow for the beans. Jack does not chop down the beanstalk. The giant kills Jack and his mother.

1.H What choice will the user make that will result in the second ending?

The user decides if Jack should trade the cow for beans, and whether to chop down the beanstalk.

1.I: Why did you pick this story?

My mother told me this story when I was little. She did a lot of sound effects, and used different voices for the characters. That made it fun to listen to.

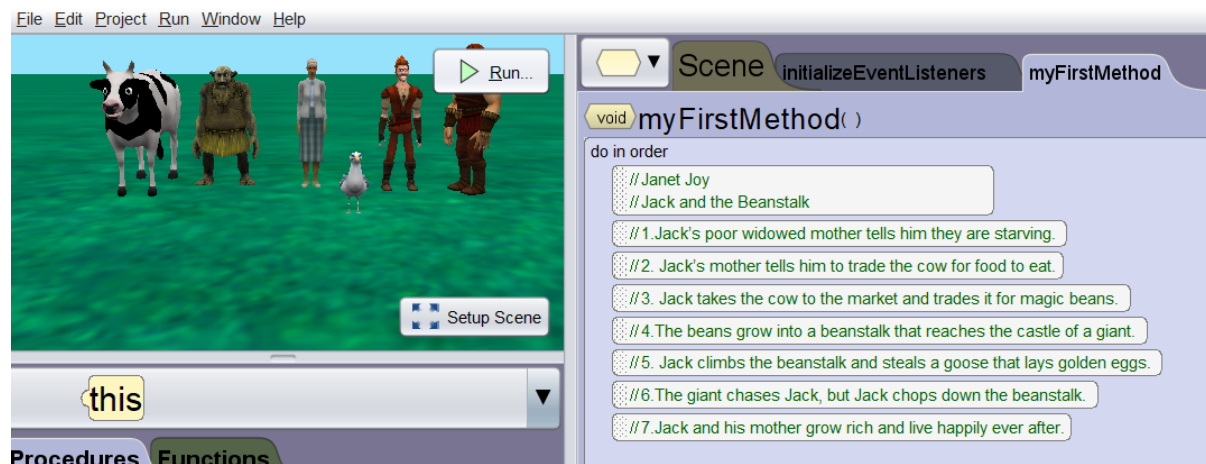
Start a new Alice 3 project, if you are going to have a room in your story, be sure to select the room to start.

1.I Save the project as Lastname_Firstname_FinalProject1.a3p

1.J: Add comments to my first method with your name, title of the story, and the synopsis.

1.K: In setup scene view, add all the characters and animals that will be in the movie.

Example:




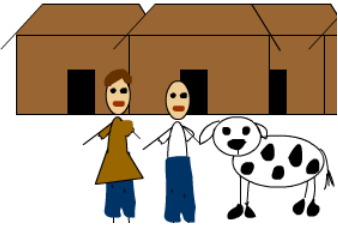
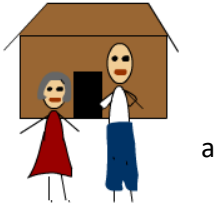
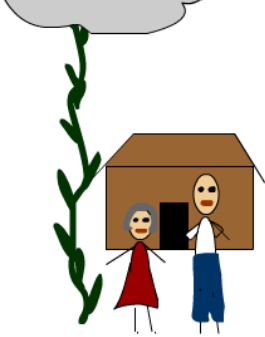


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Step 2: Algorithm, Storyboard, and Sound

Using the synopsis of the story, create a storyboard showing each of the major steps that will occur. Your storyboard must have at least 10 frames with a unique title, the major events, characters, location changes, and dialog. The storyboard is your own work. You can draw stick figures on paper, then take a

picture or use any drawing software. You may NOT use artwork done by anyone else.

2.A: Paste the storyboard here:

<p>Scene 1: At home Mother: Jack, we have nothing to eat. Jack: I know, mom, what are we going to do? Mother: Take the cow and sell it for as much food as you can. Jack: OK.</p> 	<p>Scene 2: The market Jack: I need to sell this cow. What will you give me for it? Tradesman: I will give you these magic beans. Jack: Great!</p> 
<p>Scene 3: Back home Jack: Look Mom, I got some magic beans! Mother: You fool! How could you trade our cow for handful of worthless beans? Mother throws beans away.</p> 	<p>Scene 4: Next morning Jack: Look Mom, the beans grew into a magic beanstalk! Mother: Amazing! It goes up to the clouds! Jack: I'm going to climb it.</p> 
<p>Scene 5: Giants Castle Jack climbs the beanstalk and finds himself in the castle of an unfriendly giant who is sleeping. Jack: Look, it's the goose that lays golden eggs! Jack grabs goose. Goose: Help! Help! Squawk, squawk.</p> 	<p>Scene 6: Giant wakes up The giant wakes up and chases jack Giant: Fe-fi-fo-fum! I smell the blood of an Englishman! Jack thinks: Uh-oh!</p> 

<p>Scene 7: Jack goes down beanstalk and throws goose to mother</p> <p>Jack: Mom! Catch! It's the goose that lays golden eggs Mom: Jack, hurry!</p> 	<p>Scene 8: Jack chops down beanstalk</p> <p>Jack: What should I use to chop down the beanstalk?</p> <p>Jack grabs hammer and chops down beanstalk</p> 
<p>Scene 9: The giant falls</p> 	<p>Scene 10: Jack and mother grow rich from the goose that lays golden eggs</p> <p>Mother: We are rich now. Mother: I'm sorry I called you an idiot. Jack: That's Ok Mom.</p> 

2.B: What is the title of each frame (use Alice naming conventions):

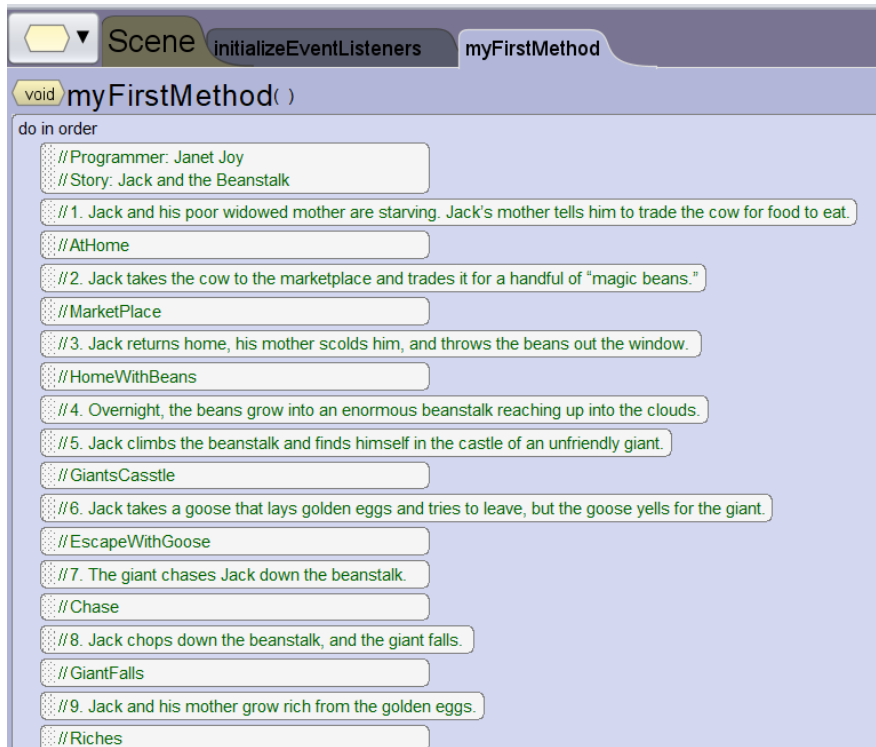
1. At Home
2. The Market
3. HomeWithBeans
4. Beanstalk
5. GiantsCastle
6. EscapeWithGoose
7. Chase
8. Giant Falls
9. Riches

2.C: Open the final project, lastname_firstname_finalproject1.a3p, and save it as lastname_firstname_finalproject2.a3p.

2.D: Add comments to show the title of each frame of the algorithm.

Each frame of the algorithm must have a title and be a separate comment.

Example:



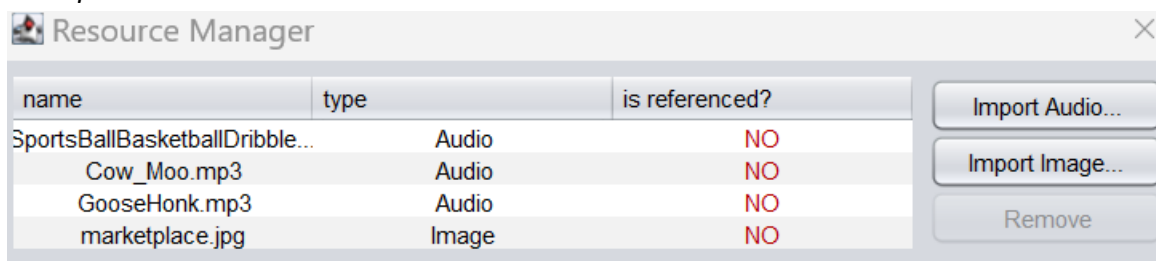
If there are items in your story that are not in Alice, how have you represented them?
Billboards can display a picture, or you can substitute something.

2.E: Name one thing you had to make a substitution for.

There is no goose, I used a seagull. I used a billboard with a picture of a medieval marketplace.

From the menu select Project, Resource manager, import audio. Import at least 3 sounds that you will use in the final project.

Example:



2.F: List those 3 sounds here.

- Cow_moo
- GooseHonk
- Basketball dribble for the chopping sound

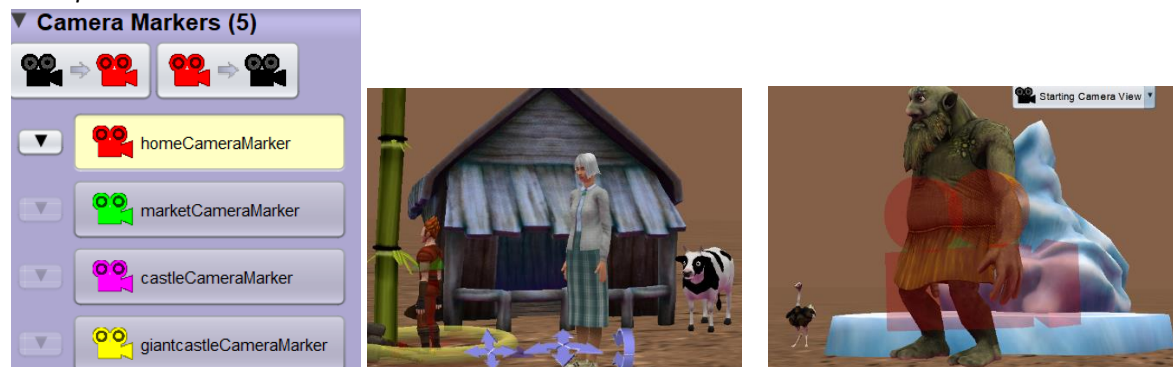
Submit this document: Lastname_Firstname_FinalProject.docx, with steps 1 to 2 completed (nothing deleted) and the Lastname_Firstname_FinalProject2.a3p file in assignments.

Step 3: Final Project Locations

Open the final project, lastname_firstname_finalproject2.a3p, and save it as lastname_firstname_finalproject3.a3p.

Create your 3 locations with one location on the left, one in the middle and one on the right. (You can move them around with code later.) Create a camera marker for each location.

Examples:



3.A: List those 3 locations here with the name of the camera marker.

- homeCameraMarker
- marketCameraMarker
- giantCastleCameraMarker

3.B: Move all the characters and objects to the location where they first appear.

Submit this document: Lastname_Firstname_FinalProject.docx, with steps 1 to 3 completed (nothing deleted) and the Lastname_Firstname_FinalProject3.a3p file in assignments.

Step 4: Final Project Scene Procedures

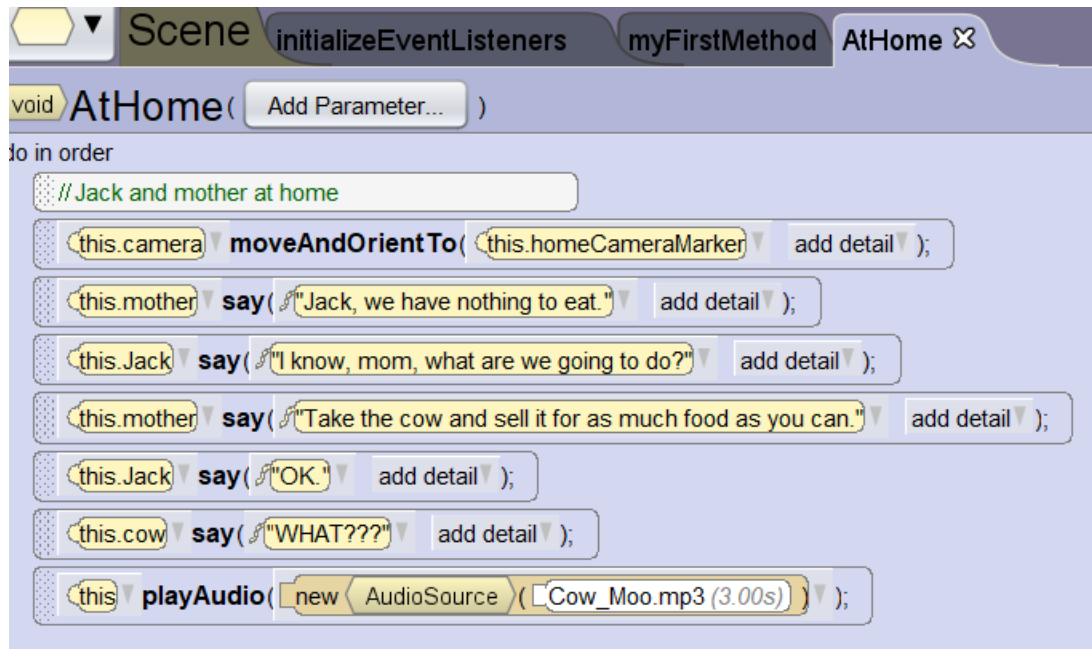
Open the final project, lastname_firstname_finalproject3.a3p, and save it as lastname_firstname_finalproject4.a3p.

For each of the lines of the synopsis create a **Scene Procedure**. Add comments to each scene procedure to tell what happens in that scene. List the location, actors, and props that you will use in each scene.

For now, just include the main story, not the alternate ending.

- Add the code to move the camera marker to the location for the scene.
- Add all the dialog from the storyboard to the correct Scene Procedure. *(You should complete at least 5 scene procedures at this step.)*
- Add the code to play the sound in the scene procedure where it belongs.
- Add comments to tell what actions will take place: walk, bow, climb, etc.

Example:



Do not add the code to MyFirstMethod.

Add calls to the procedures to MyFirstMethod.

Example:

```

void myFirstMethod( )
// Programmer: Janet Joy
// Story: Jack and the Beanstalk
// 1. Jack and his poor widowed mother are starving. Jack's mother tells him to trade the cow for food to eat.
// AtHome
this AtHome();
// 2. Jack takes the cow to the marketplace and trades it for a handful of "magic beans."
// Marketplace
this Marketplace();
// 3. Jack returns home, his mother scolds him, and throws the beans out the window.
// HomeWithBeans
this HomeWithBeans();
// 4. Overnight, the beans grow into an enormous beanstalk reaching up into the clouds.
this Beanstalk();
// 5. Jack climbs the beanstalk and finds himself in the castle of an unfriendly giant.
// GiantsCasstle
this GiantsCastle();
// 6. Jack takes a goose that lays golden eggs and tries to leave, but the goose yells for the giant.
// EscapeWithGoose
this EscapeWithGoose();
// 7. The giant chases Jack down the beanstalk.
// Chase
this Chase();
// 8. Jack chops down the beanstalk, and the giant falls.
// GiantFalls
this GiantFalls();
// 9. Jack and his mother grow rich from the golden eggs.
// Riches
this Riches();
    
```

4.A: Fill out the table for 5 scene procedures:

Scene Procedure	Camera Marker	Characters	Sound
AtHome	homeCameraMarker	Mother, Jack, cow	moo
Marketplace	marketCameraMarker	Jack, cow, bean seller	moo
GiantsCastle	castleCameraMarker	Jack, giant, goose	honk
GiantFalls	homeCameraMarker	Jack, giant, goose, mother	Chopping sound (basketball)
Riches	homeCameraMarker	Jack, mother, goose	none

Submit this document: Lastname_Firstname_FinalProject.docx, with steps 1 to 4 completed (nothing deleted) and the Lastname_Firstname_FinalProject4.a3p file in assignments.

Step 5: Final Project Interactions:

Open the final project, lastname_firstname_finalproject4.a3p, and save it as lastname_firstname_finalproject5.a3p.

Tell how you will make the story interactive? List at least two questions the actors ask of the user. The answer must change the movie in some way. Example: How many times should I knock? Should I go left or right? Etc. Should I pick some flowers? If the user answers yes, call a separate scene procedure to pick the flowers. The user choices here should not change the ending, we will add the alternate ending in the last step. Add the variables and the questions to store the results in the variables to the **Scene Procedure** where the question will be asked. **Do NOT add any code to MyFirstMethod. Any new code should be in one of the scene procedures.**

5.A: Fill out the table for 2 questions:

Scene Procedure	Question	Variable	Action
sellingCow	Jack: Should I buy the magic beans?	buyBeans	Trades the cow for beans (Goes back home and they starve.)
homeWithBeans	Mother: Should I cook the beans of throw them out?	cookBeans	Throw the beans out (If they eat them, they starve.)

In Alice, you can select an object by clicking on it. List one choice the user can make by clicking on the choice. Example: Click on the tool that will open the lock. Click on each pig to make him run away. Click on the gate to open it. (You will add the clicking part later.)

5.B: Choice user makes by clicking: Click the tool that Jack should use to chop down the beanstalk. If they click the hammer Jack chops down the beanstalk, if not, the giant falls on Jack and his mother and kills them.

5.C: complete all the scene procedures at this step.

Submit this document: Lastname_Firstname_FinalProject.docx, with steps 1 to 5 completed (nothing deleted) and the Lastname_Firstname_FinalProject5.a3p file in assignments.

Step 6: Biped Procedures

Open the final project, lastname_firstname_finalproject5.a3p, and save it as **lastname_firstname_finalproject6.a3p**.

From the actions you listed in step 3, create at least 3 biped procedures. For each procedure add comments to tell what occurs. Add calls for each procedure at the appropriate places, replacing the code that you wrote previously.

The procedures will work for all instances of the class, so add parameters to the procedures so that some can walk faster or slower, etc. Make sure that you replace constants in the code with the parameters.

Example:

```

Scene initializeEventListeners myFirstMethod AtHome Biped Throw x
void Throw( Double amountToTurnShoulder , Double amountToTurnElbow Add Parameter... )
do in order
  //Used by mother to throw out the bena, and Jack throws the goose to his mother
  /*do in order*/ {
    //Throw
    //bend arm
    ThreadUtilities.doTogether( ()-> {
      this getRightShoulder() turn( TurnDirection.LEFT , amountToTurnShoulder add detail );
    }, ()-> {
      this getRightElbow() turn( TurnDirection.LEFT , amountToTurnElbow add detail );
    } );
    //Throw
    this getRightElbow() turn( TurnDirection.RIGHT , amountToTurnElbow , Turn.duration( 0.25 ) add detail );
    this getRightShoulder() turn( TurnDirection.RIGHT , amountToTurnShoulder add detail );
  }
  }

```

```

void Chop( Integer numberChops , Prop tool Add Parameter... )
do in order
  //Chop down beanstalk
  //Pick ups hammer
  //bend over
  //reach for hammer
  ThreadUtilities.doTogether( ()-> {
    this getSpineBase() turn( TurnDirection.FORWARD , 0.36 add detail );
  }, ()-> {
    this getLeftShoulder() turn( TurnDirection.RIGHT , 0.4 add detail );
  });
  //grab hammer
  tool moveTo( this getLeftIndexFinger() , MoveTo.duration( 0.0 ) add detail );
  tool setVehicle( this getLeftIndexFinger() );
  //stand up
  ThreadUtilities.doTogether( ()-> {
    this getSpineBase() turn( TurnDirection.BACKWARD , 0.36 add detail );
  }, ()-> {
    this getLeftShoulder() turn( TurnDirection.LEFT , 0.4 add detail );
  });
  //lift hammer
  ThreadUtilities.doTogether( ()-> {
    this getLeftShoulder() turn( TurnDirection.RIGHT , 0.5 add detail );
    drop statement here
  });
  //pound
  for( Integer indexA = 0; indexA < numberChops ; indexA++ ) {
    this getLeftShoulder() turn( TurnDirection.LEFT , 0.5 , Turn.duration( 0.25 ) add detail );
  }
  
```

6.A: Fill out the table for 2 biped procedures:

Biped Procedure	Parameters
Throw	amountToTurnElbow, amountToTurnShoulder
Chop	Number,chops,tool

6.B: Add calls to these procedures to scene procedures, not MyFirstMethod.

You may have the same actions in more than one scene. For instance, **walking** may occur for multiple characters, in multiple scenes.

Biped Procedure	Calling Scene Procedure(s)
throw	homeWithBeans, chase
chop	chase

Submit this document: Lastname_Firstname_FinalProject.docx, with steps 1 to 6 completed (nothing deleted) and the Lastname_Firstname_FinalProject6.a3p file in assignments.

Step 7: Arrays

Open the final project, lastname_firstname_finalproject6.a3p, and save it as lastname_firstname_finalproject7.a3p.

Find someplace where several objects do the same thing. Modify the code to use an array. For instance, you may want to make several items invisible by setting the opacity to 0. Create an array of these things, then use a loop to change the opacity.

Do NOT add any code to MyFirstMethod. Any new code should be in one of the scene procedures.

8. A: Take a screenshot of the code to show the array you added. Insert the screenshot here:

```

void Riches( Add Parameter... )
do in order
  //9. Jack and his mother grow rich from the golden eggs.
  this showTitle( "Jack and Mother are Rich" );
  Prop[] riches = new Prop[] { this.bookcase, this.hotTub, this.coinStack, this.coinStack2, this.treasureChest };
  ThreadUtilities.eachInTogether( ( Prop item ) -> {
    item setOpacity( 0.1, SetOpacity.duration( 0.0 ) add detail );
  }, riches );
  this.mother say( "We are rich now." add detail );
  this.mother say( "I'm sorry I called you an idiot." add detail );
  this.Jack say( "That's Ok Mom." add detail );

```

Submit this document: `Lastname_Firstname_FinalProject.docx`, with steps 1 to 7 completed (**nothing deleted**) and the `Lastname_Firstname_FinalProject7.a3p` file in assignments.

Step 8: Events and Alternate Ending

Open the final project, `lastname_firstname_finalproject7.a3p`, and save it as `lastname_firstname_finalproject8.a3p`.

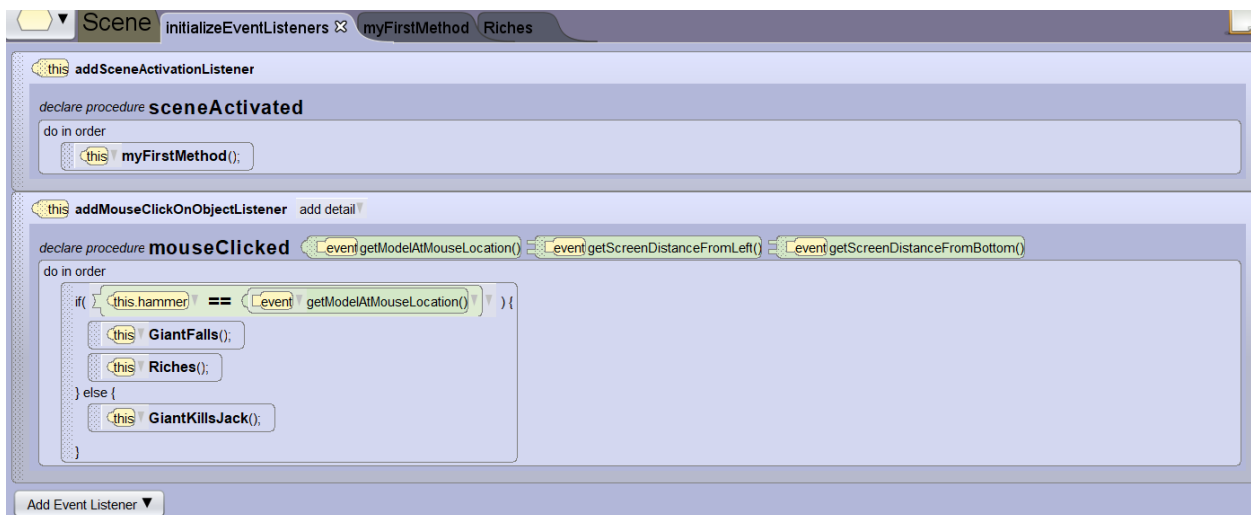
8.A: Add the click event to the code. Add another event. List the events:

-
-

8.B: Add the code to call the regular ending or the alternate ending depending on which object is clicked. Where is that code:

8.C: Modify `myFirstMethod` so that the ending is not called from `myFirstMethod`, but from the click event.

Example:



Submit this document: `Lastname_Firstname_FinalProject.docx`, with steps 1 to 8 completed (**nothing deleted**) and the `Lastname_Firstname_FinalProject8.a3p` file in assignments.

Finish: Continue to add the finishing touches to the final project. Be sure to add comments and save often using a progression of numbers as you have done throughout the design process.