

ALICE Reference Guide



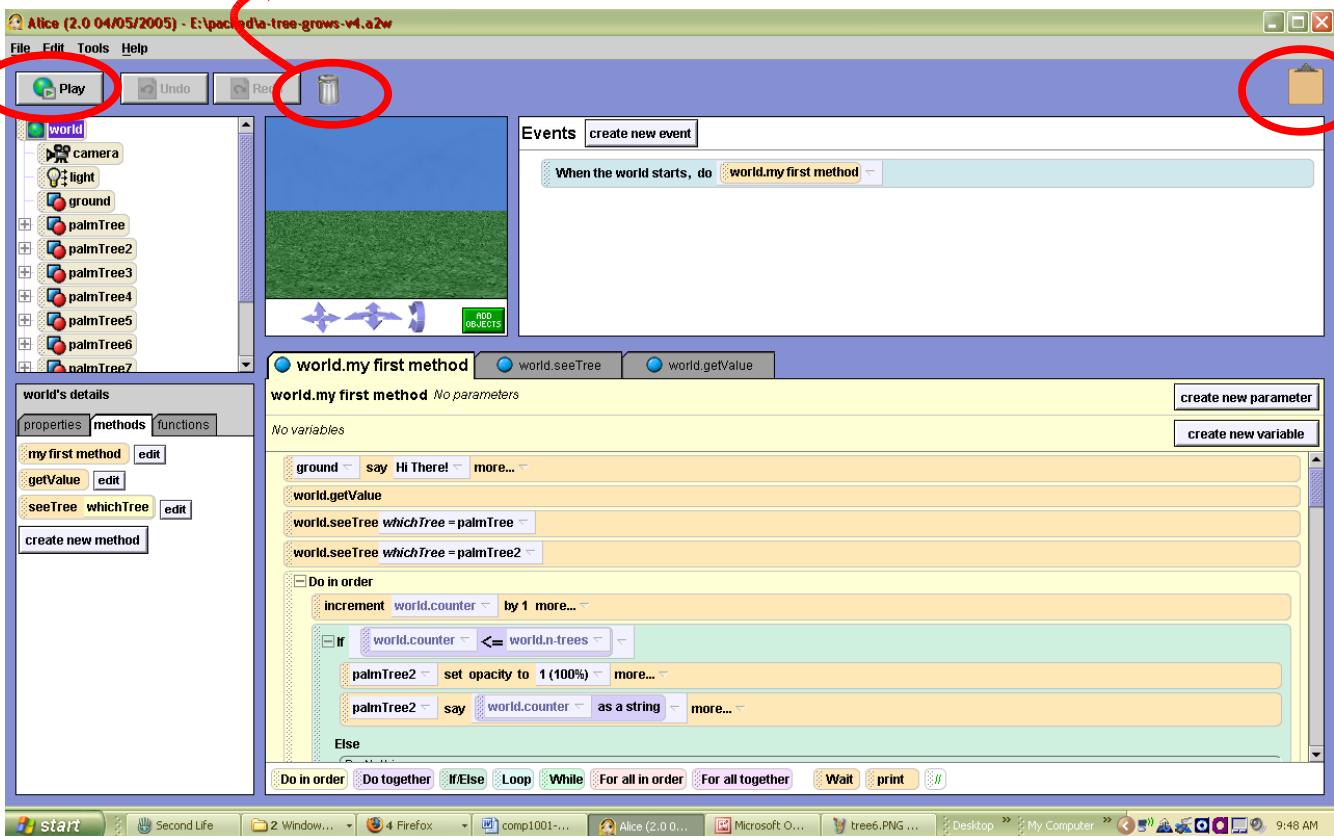
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The Main Screen

Clipboard: drag items here to make copies (one group at a time)

Click this button to watch your animation run.

This is the **Recycle Bin**. Drag things you want to get rid of here.

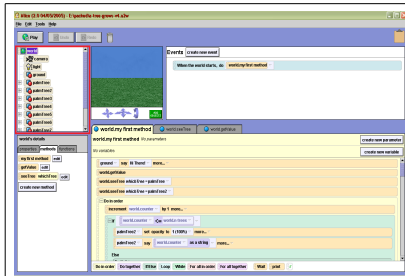


The following page has more details on the different sections of this main Alice screen.



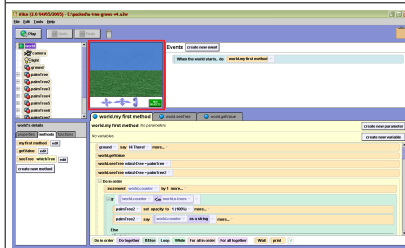
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The Main Screen, con't



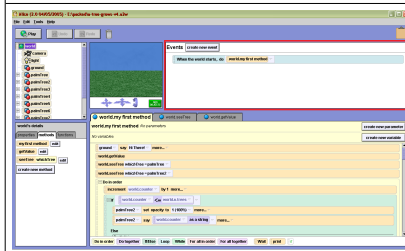
Object Tree pane (details panel):

- shows a complete list of all the objects you have in your world
- note that some have sub-parts; you can get at them by clicking the **plus** beside the object



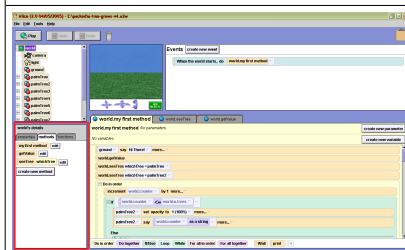
World Screen pane (world view):

- shows what your atsrtng world looks like
- to add more objects press the button
- you can move the camera using the camera controls



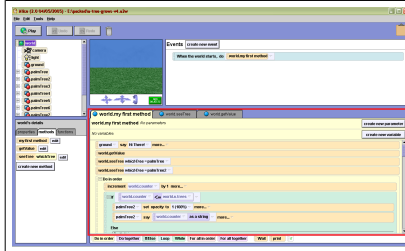
Events pane (events editor):

- set up your animation to respond to various "events", like mouse clicks, keys being typed, etc.



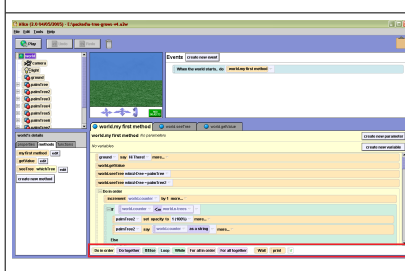
Object pane (details panel):

- displays information about the object currently selected in the **object tree pane** (above)



The Code Edit pane (method editor):

- shows you your code
- note there is a tab for each open method
- open a method for editing by clicking on the button next to the method you want in the **object pane**




Program Tiles pane:

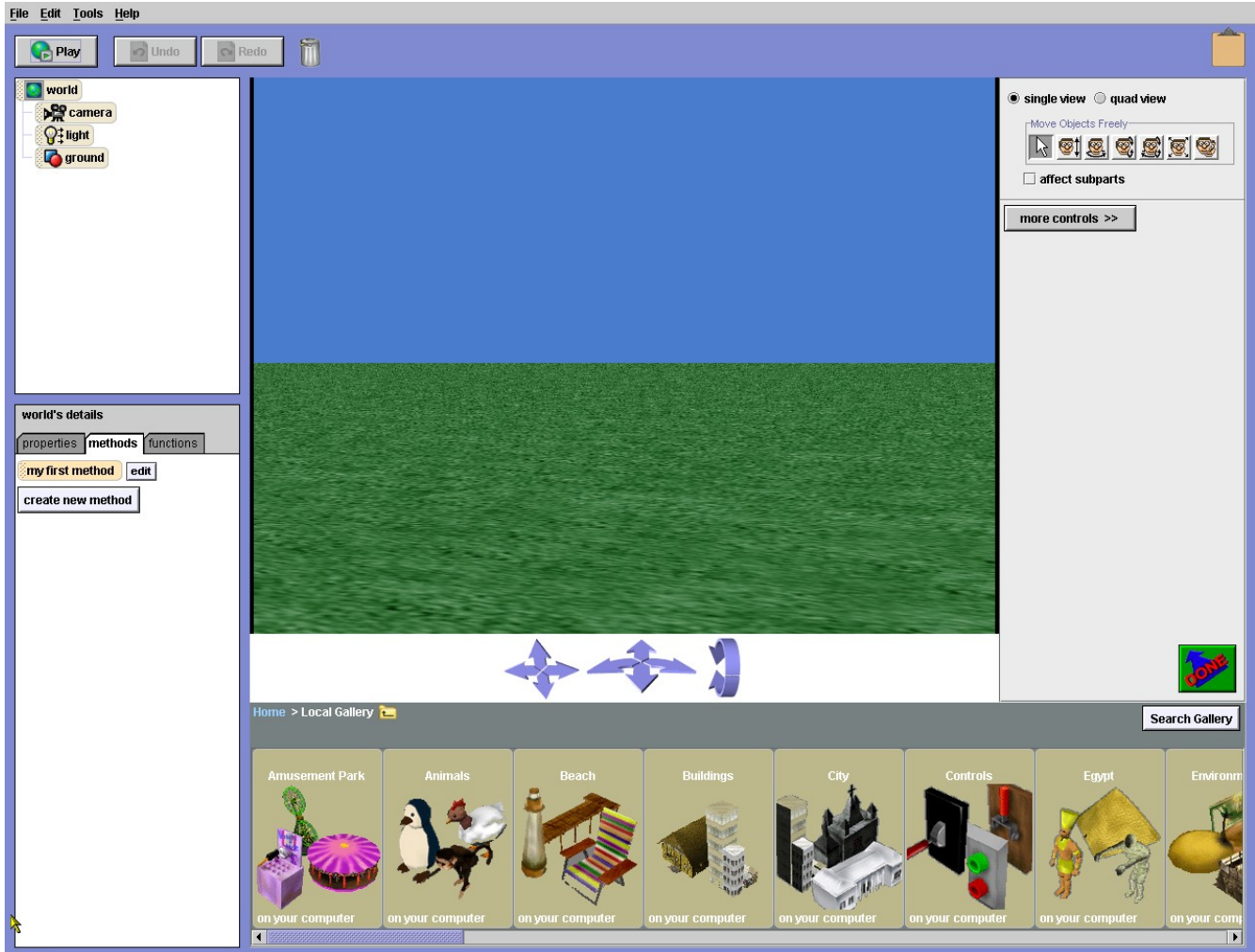
- contains the program tiles you can use in the method that is currently open for editing.
- To use them just drag them to where you want them



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Inserting Objects

When you click on the  button, the screen changes to look like this:



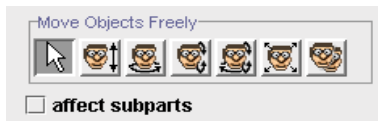
To look at items in a gallery, double click on it.

To move an item into your scene, click on it or drag it in.

To edit the object:

- right-click and use the methods in the drop down menu

- use the



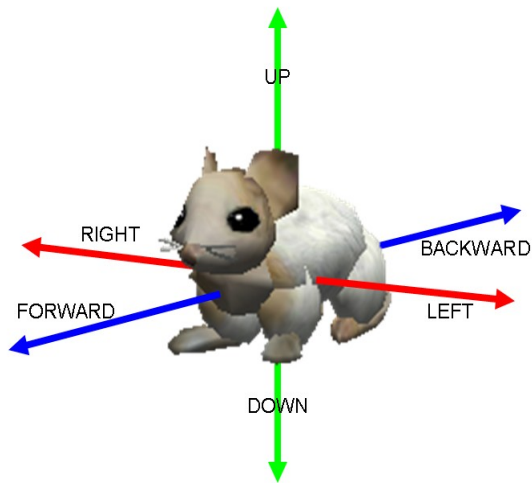
- When you are finished, click on





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Using the Mouse to Move Objects During Scene Set-up



Degrees of Freedom

Vertical Axis (height, z-axis)
Depth (y-axis)
Horizontal Axis (width, x-axis)

Note the left/right designations are from the perspective (POV) of the **object**.



From the Insert Objects Screen

- "Normal Mode" moves side to side (x-axis) and forwards and backwards (y-axis)
- Moves up and down **relative to the world**
- Turns on its vertical (up-and-down) z-axis
- Turns on its horizontal (left-and-right) x-axis
- Turns around the center point (where all three axes cross).
- Resize: makes the object larger and smaller.
- Duplicate: **every** click on an object duplicates the object **in exactly the same position** (so you likely won't see it).

Camera Movements

along the Y-Z plane ("wall") up & down, side to side	along the X-Y plane ("surface") backwards & forwards; side to side	Rotate around the X axis



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Object Attributes

These are the properties (skinny, tall, blue, etc.) of an object and can be changed. All objects have the ones we see to the left. **Opacity** is a measure of how see-through something is. 100% opaque is **solid**, and 0% opaque is **invisible**.

The **vehicle** is what the object is attached to (usually the **world**). If an object's **vehicle** is moved, it will go along with it.

hamster's details

properties | methods | functions

create new variable

capture pose

color =

opacity = 1 (100%)

vehicle = world

skin texture = hamster.texture

fillingStyle = solid

pointOfView = position: 2.27, -0.04, -4.05; orientation:

isShowing = true

+ Seldom Used Properties

+ Sounds

+ Texture Maps

modeled by: Carolyn Brooks
painted by: Samatha Olschan

The quick brown fox's details

properties | methods | functions

create new variable

capture pose

text = The quick brown fox

font = 20th Century Font

extrusion = 0.25

curvature = 2

color =

opacity = 1 (100%)

skin texture = <None>

fillingStyle = solid

vehicle = world

isShowing = true

pointOfView = position: 0, 0, 0; orientation: (0, 0, 0) 1

+ Seldom Used Properties

+ Sounds

+ Texture Maps

3D text objects also have properties to describe the text being displayed. You have control over what the **text** (message) is; the **font**; **extrusion** (how thick); and **curvature** (how smooth the curves are – don't go below 1).





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Common Object Methods

These are the **methods** that come with all **objects** in the gallery. **Methods** do something – they have a behaviour.

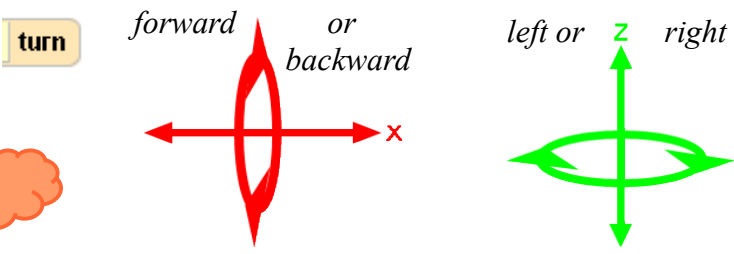
palmTree's details

properties | **methods** | functions

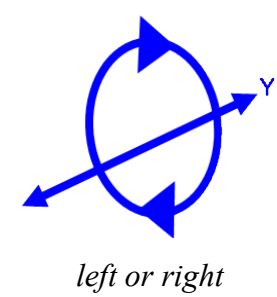
create new method

- palmTree move
- palmTree turn
- palmTree roll
- palmTree resize
- palmTree say
- palmTree think
- palmTree play sound
- palmTree move to
- palmTree move toward
- palmTree move away from
- palmTree orient to
- palmTree turn to face
- palmTree point at
- palmTree set point of view to
- palmTree set pose
- palmTree stand up
- palmTree move at speed
- palmTree turn at speed
- palmTree roll at speed
- palmTree constrain to face
- palmTree constrain to point at

move Moves the object from its current position



roll **orient to** means turn to face the same way as (ends up looking in the same direction)





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Common Object Functions (I)

world's details

properties | methods | functions

create new function

- boolean logic
 - not a
 - both a and b
 - either a or b, or both
- math
 - a == b
 - a != b
 - a > b
 - a < b
 - a >= b
 - a <= b
- random
 - choose true probabilityOfTrue of the time
 - random number
- string
 - a joined with b
 - what as a string
- ask user
 - ask user for a number
 - ask user for yes or no
 - ask user for a string
- mouse
 - mouse distance from left edge
 - mouse distance from top edge
- time
 - time elapsed
 - year
 - month of year
 - day of year
 - day of month
 - day of week
 - day of week in month
 - is AM
 - is PM
 - hour of AM or PM
 - hour of day
 - minute of hour
 - second of minute

These are the **functions** that come with all objects in the gallery. **Functions** give an answer to a question and can be used where a value is needed. The **type** of the function's answer (**result**) must be the right type for where it is being used.

These are all **world** functions. Individual objects never have these functions as part of their description.





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Common Object Functions (II)

These are individual **object** functions. They apply to a specific object and may involve some kind of comparison against another object. They will not be accessible as **world** functions.

Functions that use **IS** as part of their name (like **palmTree IS wider than**) will have a **yes (true)** or **no (false)** answer. These are **boolean** functions.

Proximity refers to how close something is to something else.

Threshold is some value that defines a limit for something.

palmTree's details

properties methods functions

create new function

- proximity
 - palmTree is within threshold of object
 - palmTree is at least threshold away from object
 - palmTree distance to
 - palmTree distance to the left of
 - palmTree distance to the right of
 - palmTree distance above
 - palmTree distance below
 - palmTree distance in front of
 - palmTree distance behind
- size
 - palmTree 's width
 - palmTree 's height
 - palmTree 's depth
 - palmTree is smaller than
 - palmTree is larger than
 - palmTree is narrower than
 - palmTree is wider than
 - palmTree is shorter than
 - palmTree is taller than
- spatial relation
 - palmTree is to the left of
 - palmTree is to the right of
 - palmTree is above
 - palmTree is below
 - palmTree is in front of
 - palmTree is behind
- point of view
 - palmTree 's point of view
 - palmTree 's position
 - palmTree 's quaternion
- other
 - palmTree 's current pose
 - palmTree 's part named key
 - palmTree 's variable named variableName of type valueClass






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When the world starts, do **Nothing** ▾


When **any key** ▾ is typed, do **Nothing** ▾


When  is clicked on **anything** ▾, do **Nothing** ▾


While **<None>** ▾ is true
 Begin: **Nothing** ▾
 During: **Nothing** ▾
 End: **Nothing** ▾

When **<None>** ▾ changes, do **Nothing** ▾

Let  move **Any Object** ▾


Let  move **camera** ▾

Let  move the camera

Let  orient the camera

Events

Most of these are fairly obvious; they are included here for reference.

When the world starts: begins to run as soon as you click 

When <any key> is typed can be used to start an action when the user hits a key. Leave it to default if you don't care which key the player types. You can also use this to connect an action to typing a specific key. You can have as many of these as you need in an animation.

While <something> is true aka **BDE** event. It allows us to set up an action that loops so long as some thing is true, but can also do something at the start of the first time through as well as something else to do at the end of the last time through.

When <something> changes can be used to tie an action to a property.

Caution: Watch out if you allow the mouse to control the camera, especially if you also want to have the mouse control other objects.









Let the mouse move <any object> lets you move stuff with the mouse DURING the animation. If you leave it to default then the player can move anything. You can also specify that individual objects can be moved.

MOVE vs ORIENT: **move** actually puts the camera in a different place without changing the way it is pointing, while **orient** leaves it where it is, but turns it to face something (or nothing).



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ALICE Program Tiles

 Do in order	For grouping sets of program tiles. All the tiles in this group will be executed one after the other. Each one waits until the other is finished before starting.
 Do together	For grouping sets of program tiles. All the tiles in this group will be executed simultaneously.
 If/Else	Asks a question. If the answer is yes (true) the tiles in the first section are executed. If the answer is no (false) then the tiles in the second section are executed. Either section can be empty.
 Loop	Repeats a set of tiles a specified number of times.
 While	Repeats a set of tiles so long as a specified condition remains true (i.e. Answer to the question is yes).
 Wait	Stops doing what ever it's doing for the specified length of time.
 print	Used in debugging programs. Prints the value of an attribute in a window below the animation screen.
 COMMENTS	Used as commentary for us so we can remember what we did and why we did it.