

Week 1 Kodu

Kodu is a visual computer programming language designed by Microsoft to introduce young people to computer games design. Creating a visually appealing environment is an important consideration when developing a game.

This week's learning outcomes are:

1. Become familiar with the **move camera**, **Ground Brush** and **Hill tools**
 - Understand how to move the terrain
 - Understand how to paint the terrain
 - Understand how to design visually appealing environment
2. Understand how to **add objects** (such as trees, Apples etc.)
3. Be able to program a character to move around the terrain.

1. Open Kodu Game Lab which you should find on your PC Desktop.



2. Click on **New World** to make a new game.



Move Camera Tool

The **hand tool** along the bottom of the screen allows you to move the camera around your world and also change the direction in which the camera is facing.

1. You can move the camera by clicking the **hand tool** button (shown below).

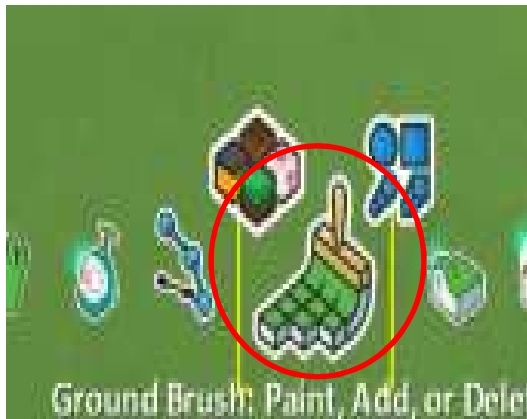


2. The **hand tool** allows you to move the terrain:
 - Clicking the Left Mouse Button – moves the terrain left, right, forward and backwards.
 - Clicking the Right Mouse Button – rotates the terrain left, right, up and down
 - Using the Mouse Scroll wheel – zooms in and out of your world.

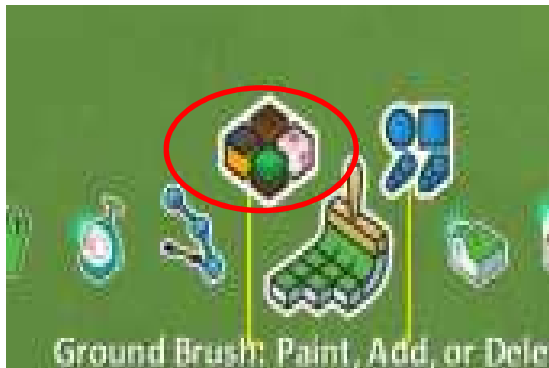
Ground Brush Tool

The **ground brush tool** is used to add more terrain (sometimes called painting terrain). There are different brush shapes to choose from. The brush size can be increased to change the amount of terrain you paint.

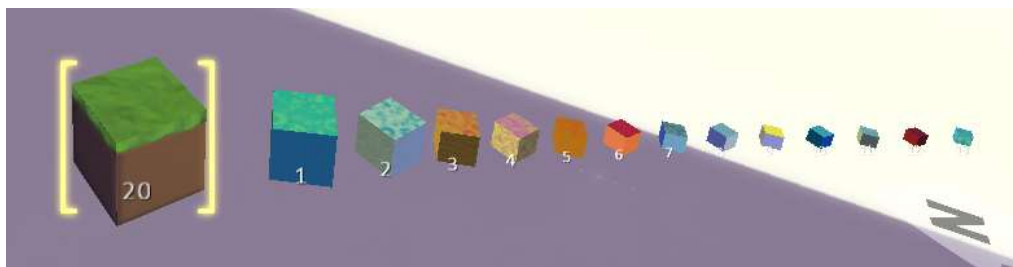
1. Click the **Ground Brush Tool** located on the tray at the bottom of the screen (shown below). Paint more terrain by clicking the left mouse button.



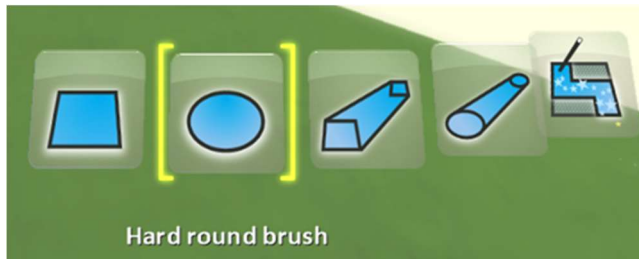
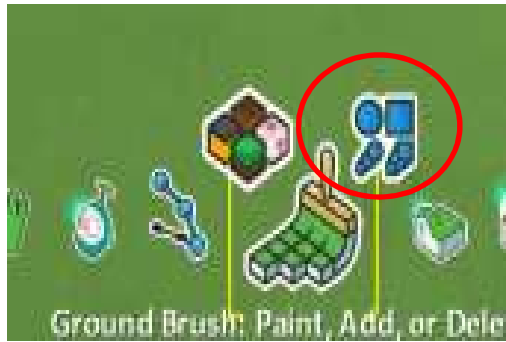
2. You can paint the terrain in different colours by clicking the cube symbol (shown below).



3. There are over 100 different colours to choose from.



4. You can paint the terrain using different shaped brushes by clicking on shape symbol (shown below).



5. You can change the size of the terrain you are about to add by using left (smaller) and right (bigger) arrow keys on the keyboard.
6. Click the left mouse button to add terrain.

Hill Tool

The **hill tool** allows you to paint/make hills.

1. To use the **hill tool** click the **Hill tool** icon (shown below).



2. Left click to add hills (N.B. hills can only be added on the terrain)

How to make a Visually Appealing Environment

1. Kodu allows you to make a Visually Appealing Environment, as shown in the example below.



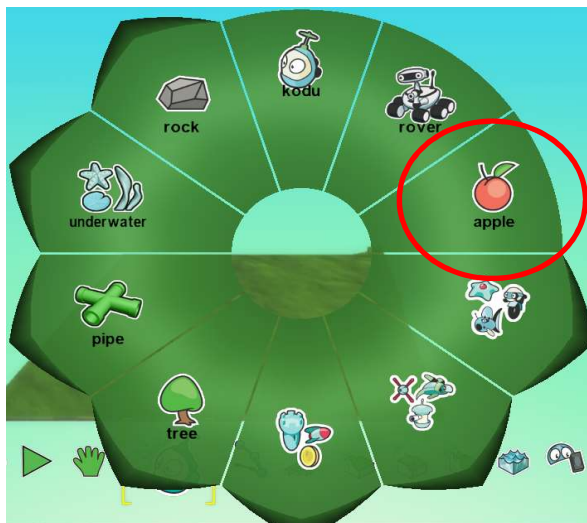
How to add objects into Kodu

In Kodu you can add objects such as characters, trees, apples and pipes to your game.

1. Click the **Object Tool** (shown below) and then click on where you want the object to appear on the terrain.



2. You will see the following menu appear, this menu is the PI Menu. This Menu contains different objects and characters which can be used in your game. **Click on the apple** (shown below).



3. In this example an apple has been added to the terrain.



Program a Character to Move around the Terrain

Kodu allows you to program characters to interact with the virtual environment that you create. This example demonstrates how to program a character to move.

1. We first need to add a character to the terrain.
2. Click on the **Object Tool** (shown below) and then **click on the terrain**.



3. Select the character you want to use from the PI Menu (shown below). There are lots of different characters to choose from.



4. To program a character
 - a. Ensure that the **Object Icon** is selected (shown in red below)
 - b. **Right click** on the character
 - c. Click **Program**



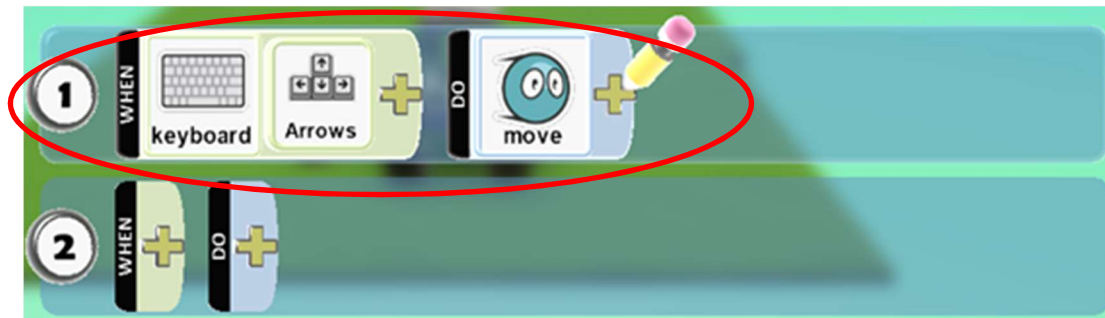
5. You will now see the program screen that is used to program characters and objects.

We program in Kodu using **When** and **Do** functions;

- When means- When something happens.
- Do means – What should be done.



7. **Add** the following code to make Rover move when you press the arrow keys on the keyboard.



8. Press the ESC key to leave the program menu.

9. Left click the **Play Button** to start your game (shown below).



10. You will now be able to move Rover around the screen by using the **Arrow keys** on the keyboard.

