

Kodu Week 5

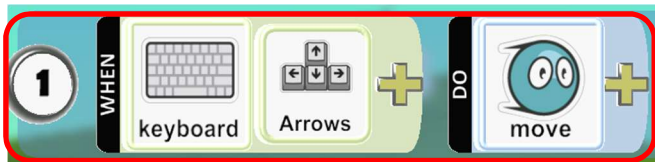
This week's learning outcomes are:

1. Spawning (automatically generating additional characters)
2. Create a New Level
3. Action functions (launch, combat, shoot and creating coins)
4. Building a race game.

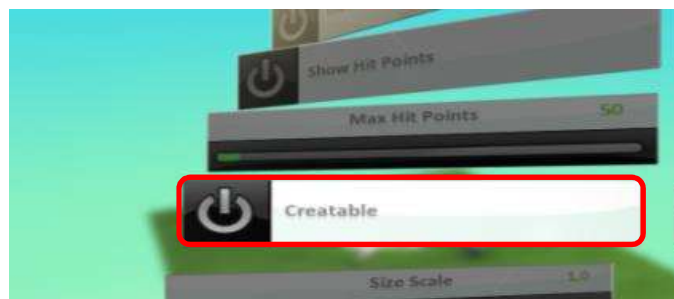
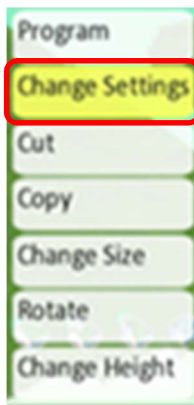
We are now going to look at how to spawn characters in KODU. This means that characters are automatically created after a predefined period of time.

How to Spawn Characters in Kodu

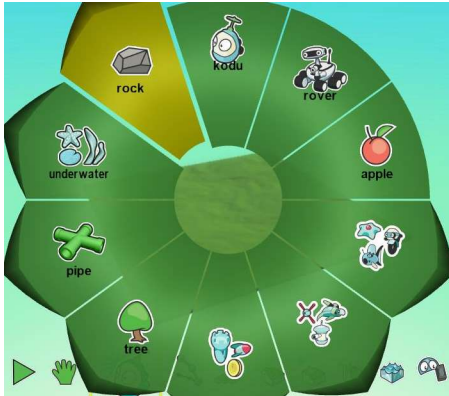
1. Add a **Rover**.
2. Program **Rover** to move using the code below.



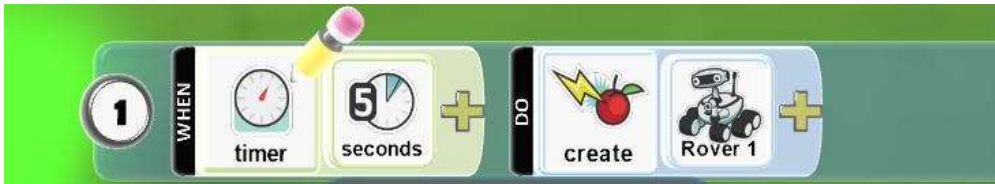
3. In order to spawn characters automatically we first must make them a **Creatable**. To do this:
 - a. Right click on the character
 - b. Click on change settings from the dropdown list (shown below left)
 - c. Find creatable from the list and click the power button symbol to activate it. (shown below right)



4. Now add a **ROCK** (shown below).



5. Program the **rock** using the code below (shown below). This will create a new rover every 5 seconds.



6. Press the **play icon** to start your game (shown below). You will see a **rover** created every 5 seconds and this will continue until you stop the game.



Making a New Level

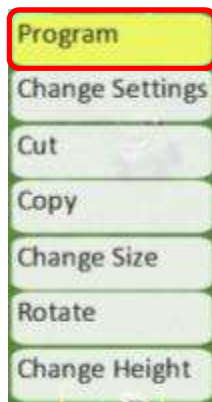
To make your game more interesting you can add new levels to it.

1. Open a new world but make sure you have saved your previous game.
2. Add some terrain and add a **Kodu** and a **Rover** (Shown below).

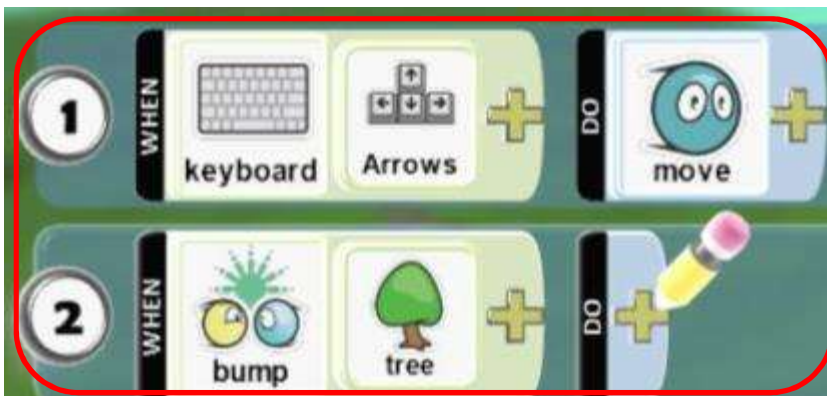


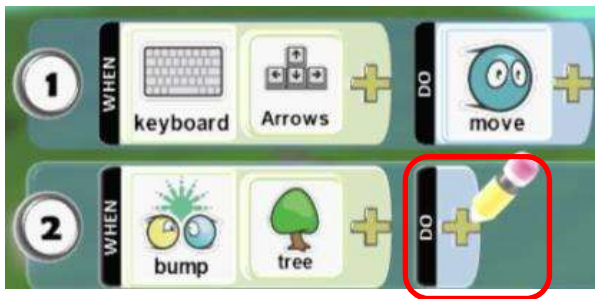
3. Program **Rover** and link the two games together (shown below)

- a. Click Program (highlighted in red)



- b. Add the following code into **rover** (shown below)

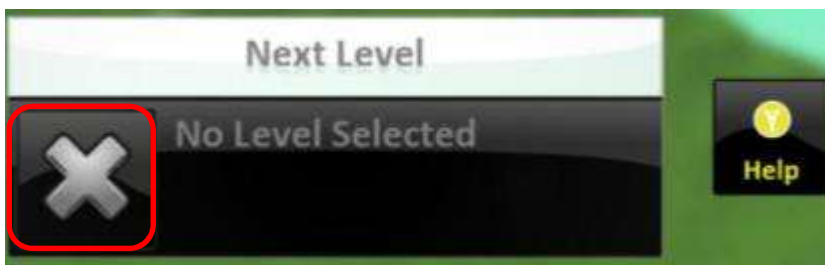




d. In the PI Menu select **Game** and then **Next Level** (shown below).



e. Click the X (highlighted in red)



f. Find your **second level** game and click on it (shown below).



- g. Click **Attach**, this will attach the two levels (shown below). This means that your two games will be joined.



Action functions in KODU

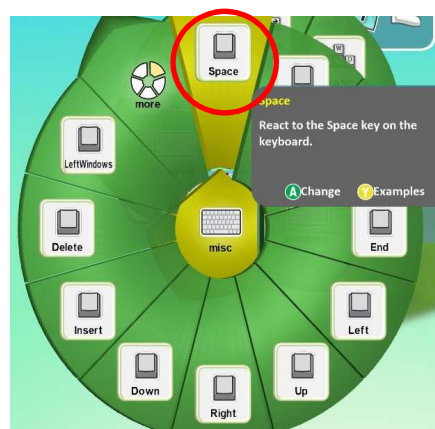
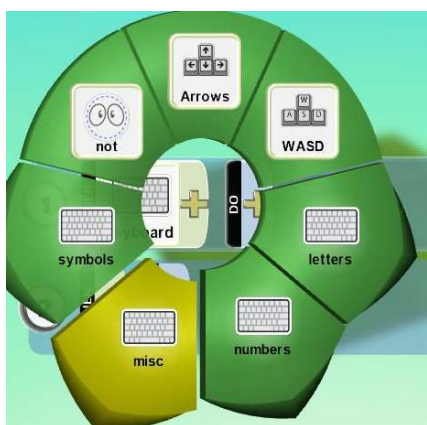
The four action functions we are going to look at are shoot, launch, create coins and combat

Shoot

1. To program a **Kodu** to shoot first add a Kodu and select to **program** it



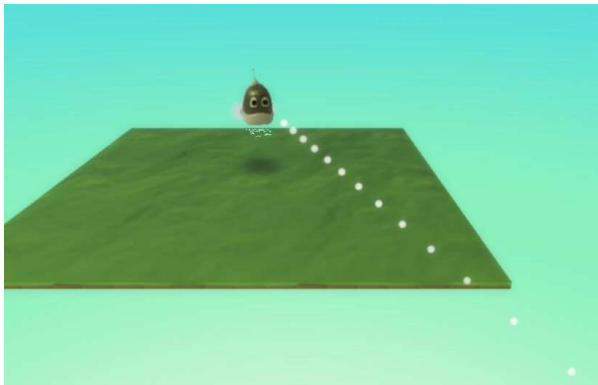
2. Choose miscellaneous (misc) then select **space** (shown below)



3. Add in the following code to program **Kodu** to shoot (shown below).



4. Now press the **play icon** to start the game, when you press the **space bar** Kodu will shoot (shown below).



Launch

To program our **KODU** to launch we need to add a **KODU** and an object to launch from such as a tree

1. First program the **KODU** to move like you did in previous weeks (shown below).
2. Now use the code below to make your **KODU** launch from the tree (shown below).



3. Now press the **play icon** to start your game, when you bump into the tree your **Kodu** will launch backwards.

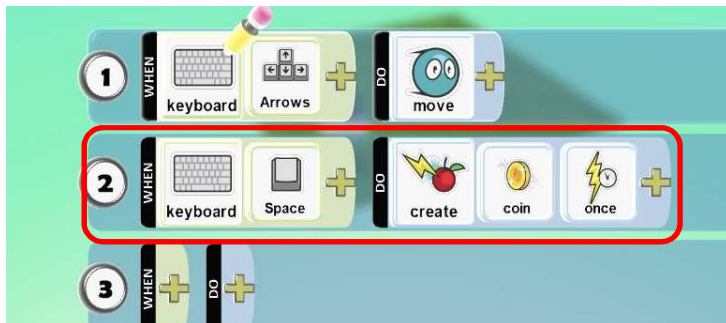


We can also use the launch function in different ways such as launching coins, apples etc

Create Coins

We will learn how to program our **KODU** to create coins

1. First add a **KODU** and program it to move (shown below).
2. Program the **Kodu** using the following code (shown below).



3. Now press the **play icon** to start your game, when you press the space bar your **Kodu** will create coins (shown below).



You can also program your **Kodu** to create coins when it bumps into objects.

Combat

There are a number of combat functions in Kodu: Damage, Heal, Stun, Knockout, Boom and Vanish. In this example we are going to demonstrate the knockout function.

To program our **Kodu** to combat we need to add a **KODU** and program it to move

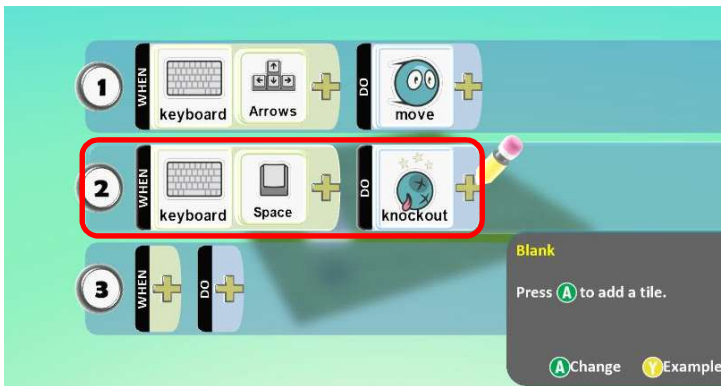
1. Select to program **KODU** and put in the following code (shown below).



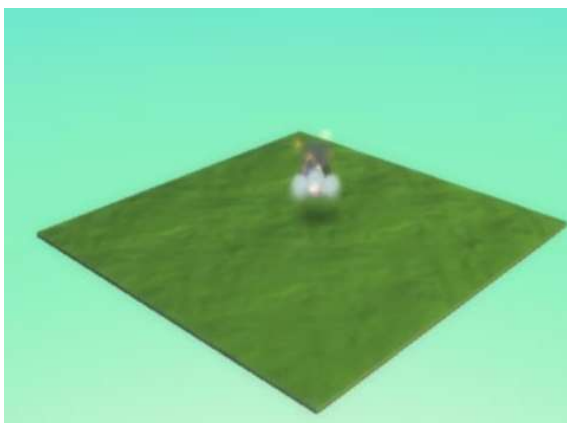
2. Now select DO, select combat and you will see this menu



- This shows the different combat options we have, for this example we have chosen knockout, your line of code should now look like this (shown below).



- Press the **play icon** to start your game, now when you press the space key your **KODU** will be Knocked out



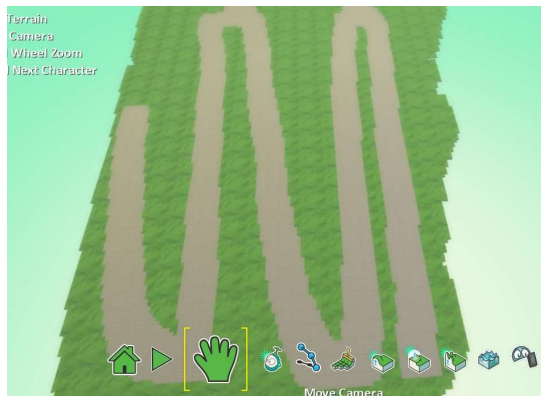
Making a race game

We are going to make a race game using the skills we have learned over the last few weeks.

1. First create a large plot of land using the **ground brush** (shown below).



2. Using the ground brush again, this time selecting a different type of land, paint the track onto the land (shown below)



3. Now choose another type of land and create a start line for your race at the beginning of the track (shown below)



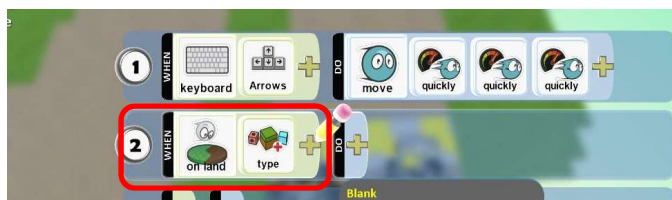
- Now we have a start line we need a finish line, choose a different type of land and paint your finish line at the end of the track (shown below).



- Now go back to the start line and add in two **rovers** to race
- First program one of the **rovers** to move quickly using the code below (shown below).



- Now we need to make it so the **Rover** moves slow when it moves of the track
- Click to program the **rover** and select when **on land** then select the + and select **types** and choose the type of land you used to create the land before you painted the track. Your code should now look like this (shown below).



9. Select the DO, select settings and choose move speed then change it to 0.1, your code should now look like this (shown below).



10. Now do the same again in the next line of code but this time when selecting the type of land choose the type you painted the finish line with, Select the DO, select GAME and select win, your code should now look like this (shown below).



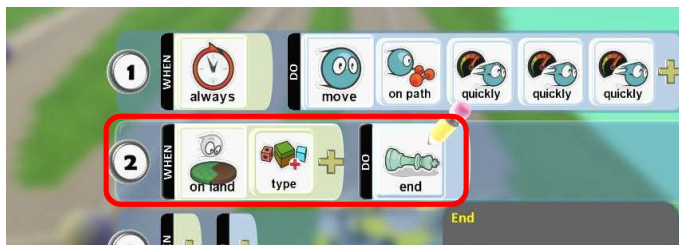
11. That is the coding complete for one **rover**, now using the path tool create a path following your track from the start to the finish (shown below)



12. Now select to program the other **rover** and put in the following code (shown below).



13. Now put in the following code using the type of land used to paint the finish line when you have to select which type (shown below).



14. Press the **play icon** to play the game and try beating the other rover to the finish line, remembering to stay on the track or your **Kodu** will move very slowly. (shown below).



