KODU Card Week 4

This week we are going to start to develop a game which involves a flying saucer moving on a path and dropping apples at random intervals. We are also going to look at how to score points by collecting apples.

This week's learning outcomes are:

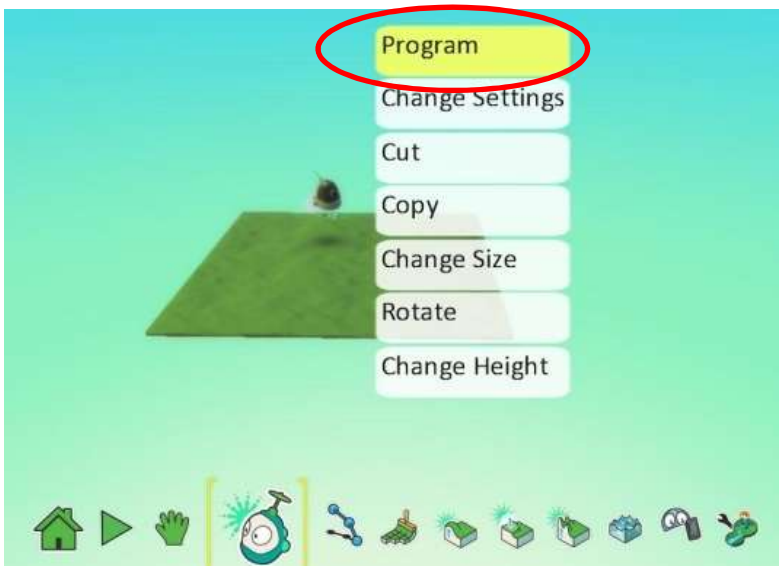
1. Understand how to use Timers.
2. Understand how to add points to a game.
3. Understand the random function in Kodu and how it can be used to drop multi-coloured apples
4. Create a flying saucer game (which involves a flying saucer moving on a path and dropping apples)

Timers

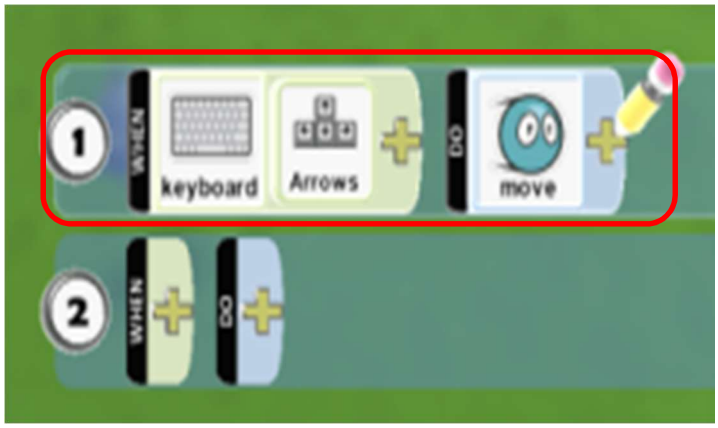
We are going to look at how to use Timers in KODU which can be used to set time limits within a game and also to automate when certain actions occur.

In this example we are going to set the time limit of 60 seconds for our game. This means that after 60 seconds a game over message will be displayed.

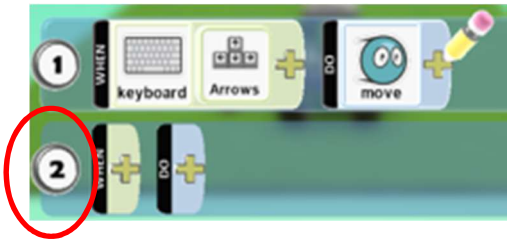
1. Add a **KODU** or character in your world and then right click on it and select **program** (shown below).



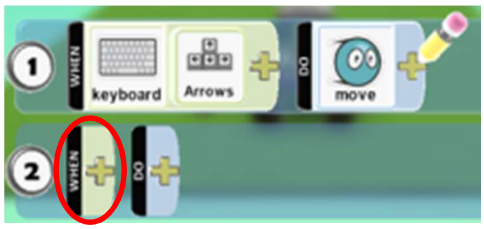
2. Program KODU to move using the following code (shown below).

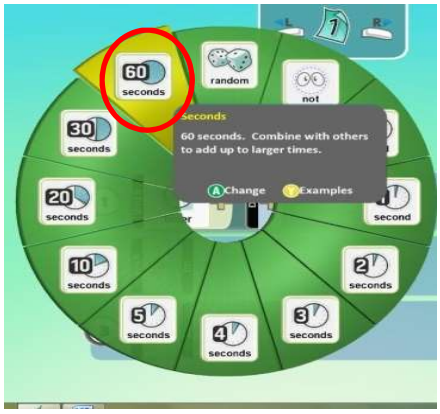


3. Now add the following code to **line 2** (shown below)

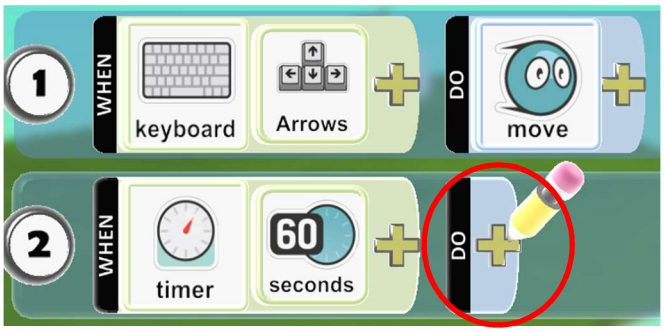


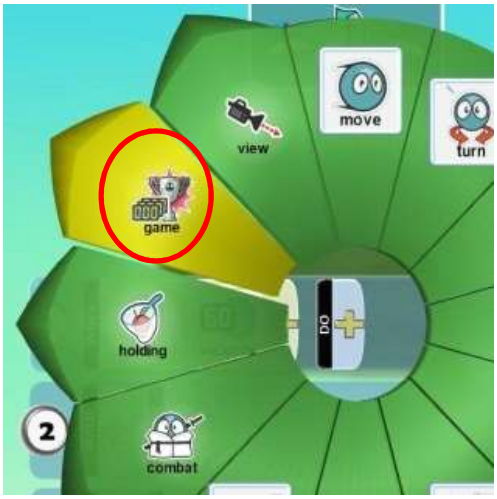
4. Select **WHEN** (shown below left) and click on timer, then click the + and select **60 seconds** (shown below right).





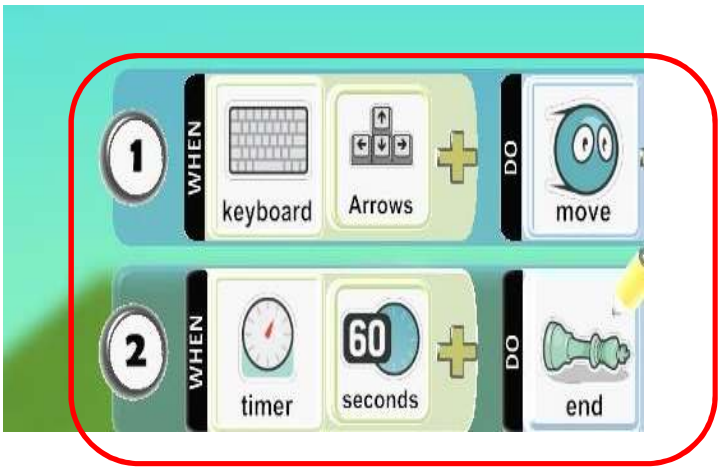
5. Then select **DO** (shown below left) and select **GAME** (shown below right).





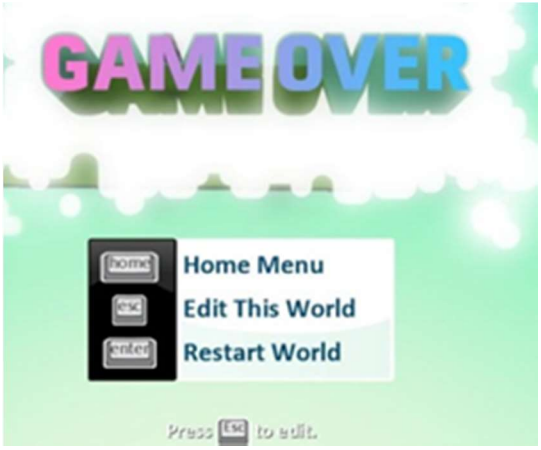
6. Then select **END** (shown below).

7. You should now have the following code (shown below).



8. Press the **play** icon to start the game (shown below)

9. After **60 seconds** the game will **END** (shown below).

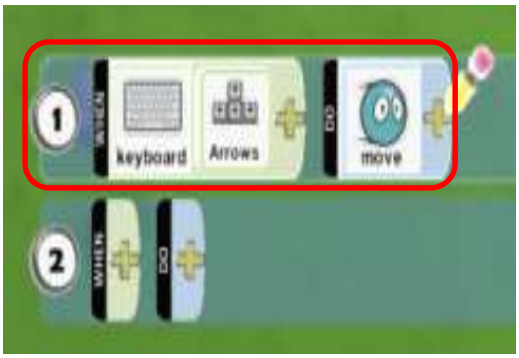


Scoring points

Using points in KODU is a great way to add a score to your game. For example you could program KODU to gain 1 point every time it eats an apple. You can also have different scores for 2 player games.

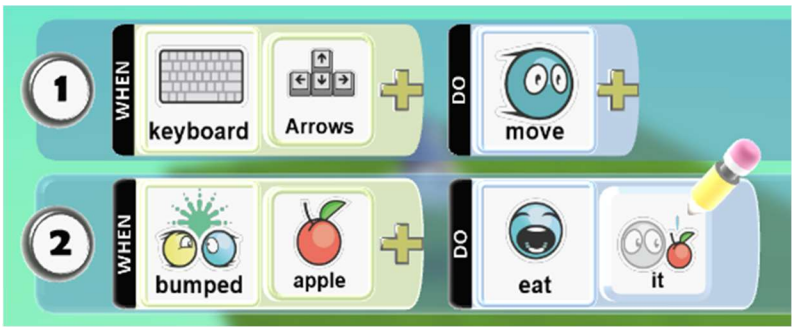
In the following exercise you will learn how to score points in a game.

1. To program your character right click on them, select program and put in the following code (shown below).

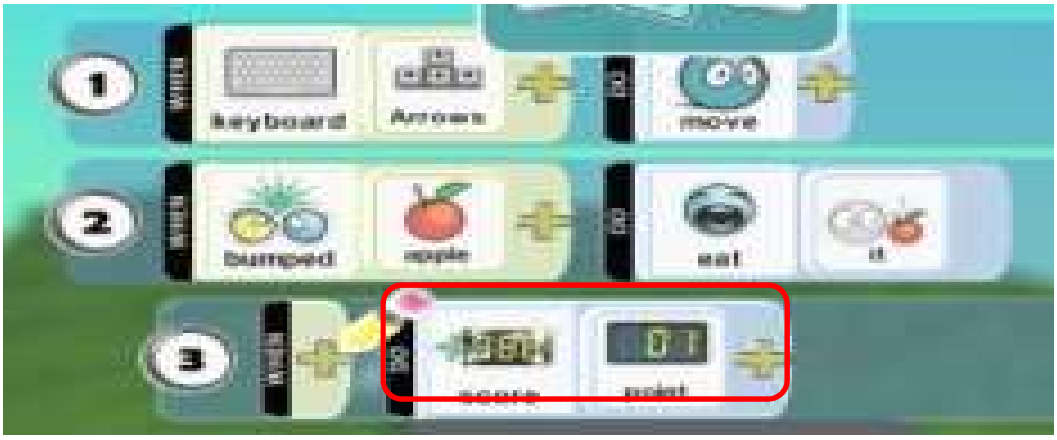


2. Add an apple using the **object tool** (shown below).

3. Enter the following code to program a character to eat an apple (shown below).



4. Now enter the code highlighted below to add scoring to your game. We do not need to program the WHEN provided that the line above uses the same code. In the example below line 3 of the code is identical to **Bumped + Apple** in line 2. To indent a line of code double click on a line number and drag to the right hand side.

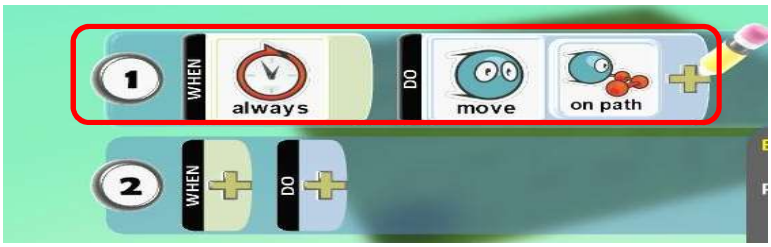


5. Press the **play icon** along the bottom to start your game. Now when you collect an apple you will score a point.

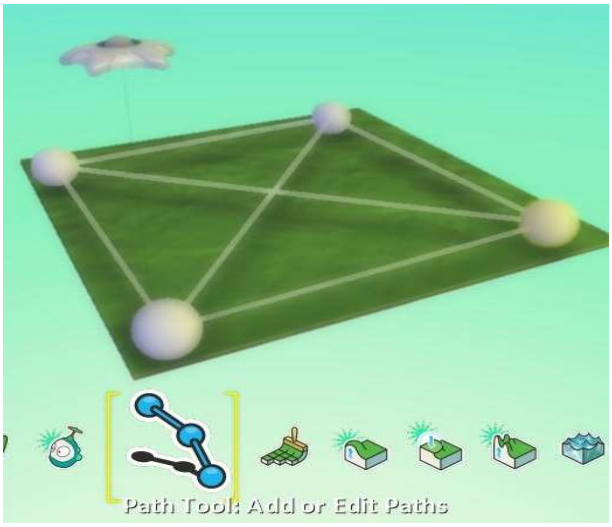
Understand random function in Kodu to drop multi-coloured apples

In this example we are going to program a flying saucer to drop multi-coloured apples.

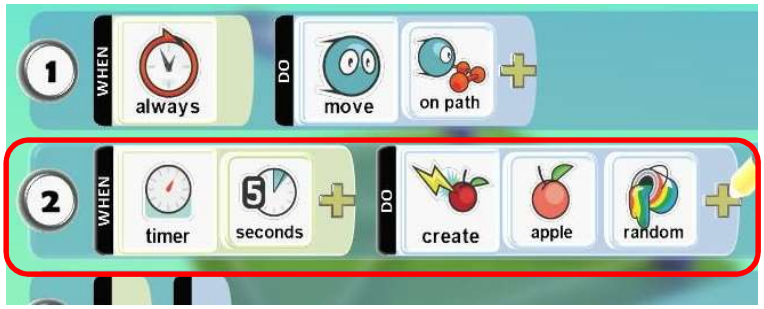
1. Add a flying saucer to your game and program it to follow a path using the code below (shown below)



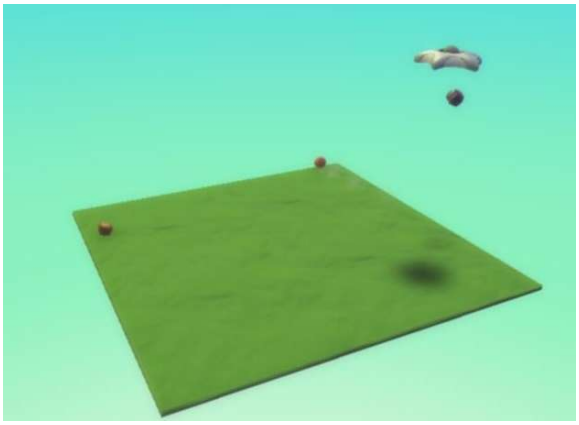
2. Create a path for the saucer to follow (shown below) (if further help is required refer to week 3 help card).



3. Program the saucer with the following code. We have now programmed the saucer to create a random coloured apple every 5 seconds.



4. Press the **Play Icon** to start your game. You will now see a random coloured apple dropped by the saucer every 5 seconds.



Apple Drop Game

We're going to create a game where a flying saucer will drop red and black apples. Collect red apples to score points and avoid black apples as they will lose you points. Collect 10 red apples to win the game. Collecting black apples will deduct one of your lives each time you eat one, you have 5 lives.

1. Start a **New World**

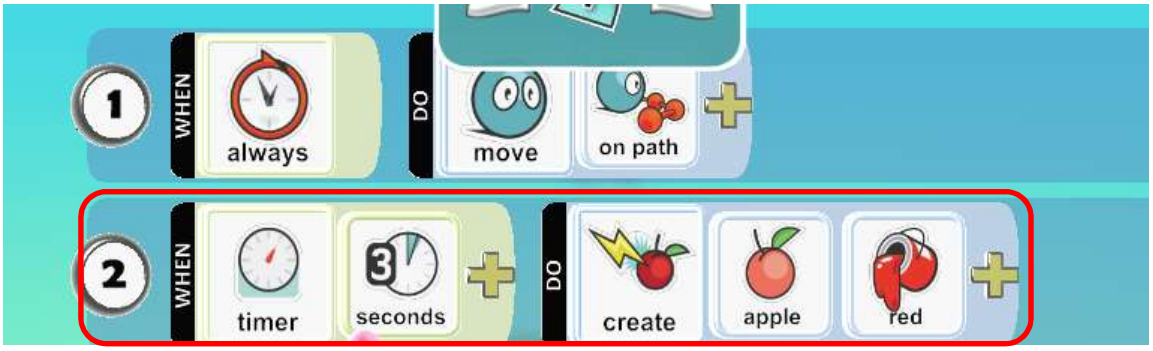
2. Add some terrain, a **Saucer** and a **Kodu** (shown below).

3. Make a path around the terrain (shown below).

4. Right click on the **saucer** and click program (Shown below).

5. Add the following code (shown below)

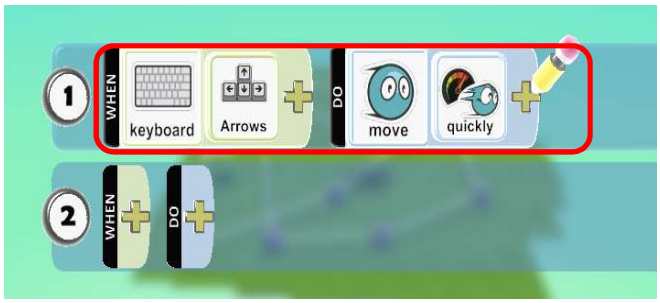
6. Enter the following code to program **saucer** to drop red apples every 3 seconds (shown below)



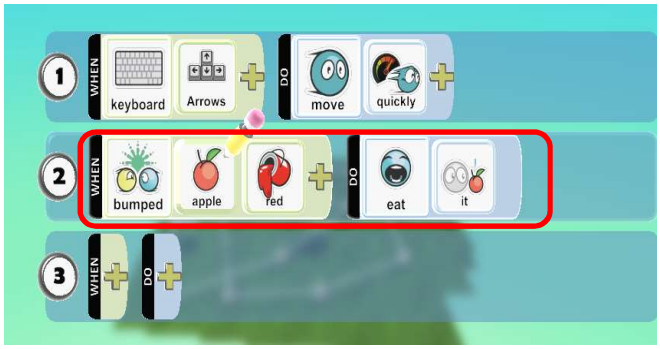
7. Right click **Saucer,** select program and enter the following code to make it drop **Black Apples** (shown below).

8. Right click on **Kodu** and select program (shown below).

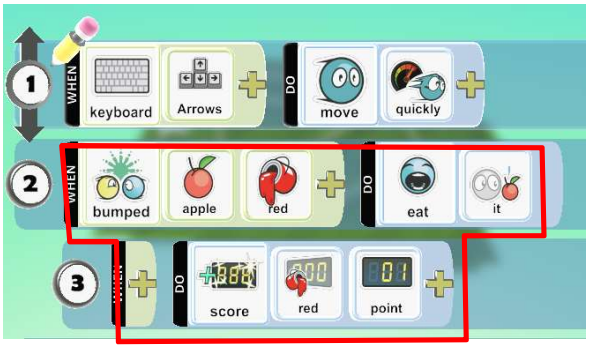
9. Add the following code (shown below).



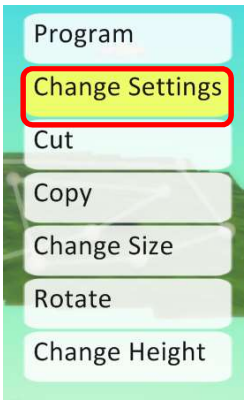
10. Right click on **KODU** and enter the following code to make it eat apples (shown below).



11. Enter the following code to give **Kodu** points for eating red apples (shown below).



12. Right click on **Kodu** go to change settings (shown below).



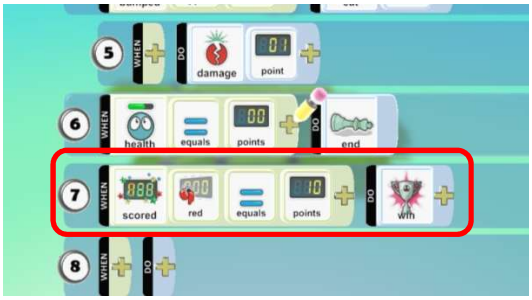
13. Scroll down to find Show Hit points, select the power button (shown below left) Slide the slider along to the left until it reaches 5 (shown below right).

14. Program Kodu using the code below to make him eat the black apples and lose a health point.

15. When you eat **Black Apples** you will lose 1 health point every time.

16. We need a win/lose condition, enter the following code to have a lose condition (shown below).

17. Now enter a win condition (shown below).



18. Press the **play icon**, now your saucer will drop random apples. Collect the red ones to score points and avoid the black apples as they will lose you points