What you've learned

`while` loop A `while` loop repeats a section of Python code. In this example the while loop repeats lines 5-11. The `True` part of the `while` loop means that it will repeat forever or until the user terminates the program.

`time` Using time in Python allows us to use functions that control `time`. For example the program that you've created uses the `time.sleep()` function to pause the Python program for a short type before continuing.

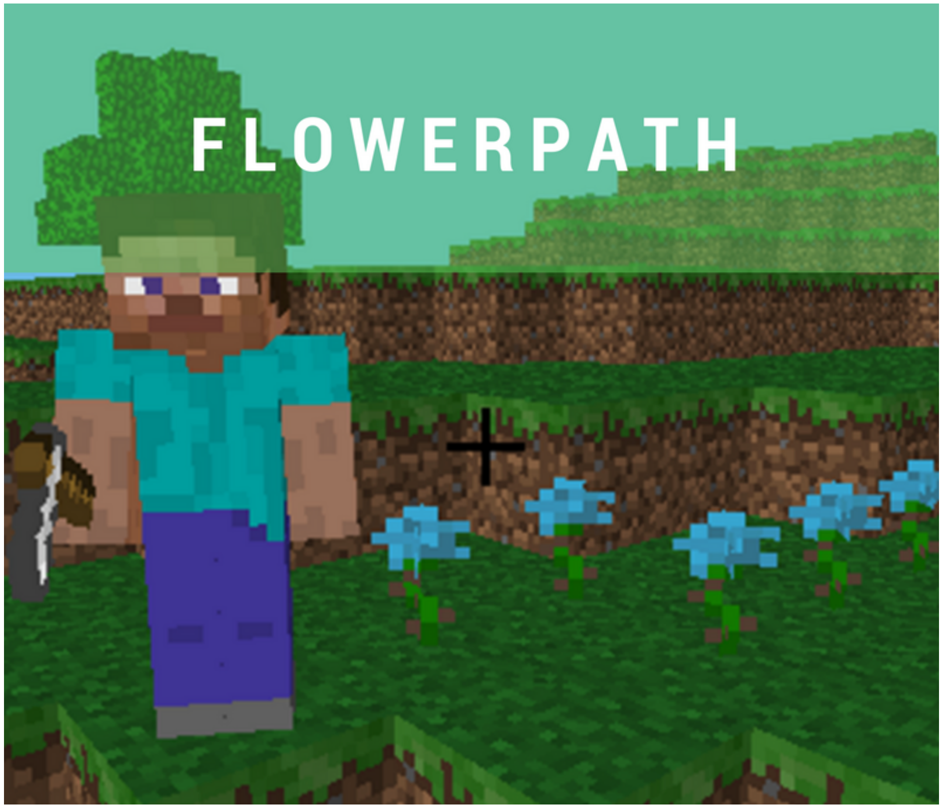
`getPos()` The `getPos()` function is part of the Minecraft Pi API and allows us to find the coordinates of the player in the game world.

`setBlock()` The `setBlock()` function in the Minecraft Pi API allows us to create blocks in the Minecraft Pi world. It takes four arguments, the first three of which are coordinates and the fourth argument is the type of block that we want to create.

Your Turn!

Here are some suggestions to extend your code and make it do different things. Try anything you think of too!

- Change the block type that is placed. To do this change the value of the `block` variable on line 9. Some examples include melons (value 103), gold (value 41) and water (value 8).



Flower Path

With Python you can achieve things that aren't normally possible in a Minecraft Pi game. In this exercise you'll create a trail of flowers that follows the player wherever they go.

You'll learn a number of new things in Python and the Minecraft Pi API. This code can be easily modified to change the flowers to any other block type including gold and TNT.

Code

Import the API

This is the code that you always use to connect your code to a Minecraft Pi game.

```
1  from mcpi.minecraft import Minecraft
2  mc = Minecraft.create()
```

Import time

This statement allows us to use time commands in our programs. For example we will use `time.sleep()` in our program which makes our program wait a number of seconds before continuing to the next line.

```
3  import time
```

While loop and get player position

A `while` loop repeats a block of indented code. In this case it will repeat lines 5-11. The `True` part of the loop means that this loop will run forever until the user terminates the program with `ctrl+c`. Lines 5-8 find the player's position and then stores it in the `x`, `y` and `z` variables.

```
4  while True:
5      pos = mc.player.getPos()
6      x = pos.x
7      y = pos.y
8      z = pos.z
```

Set the block type

Every block type in the Minecraft world has an associated number. For example air is 0, lava is 12 and melon is 103. In order to place flowers we store the flower block's number, 38 in the `block` variable.

```
9      block = 38
```

Set the block

The `setBlock()` function creates a block in the Minecraft world. It requires coordinates and a block type. Here the program is using the variables created on lines 6-9.

```
10     mc.setBlock(x, y, z, block)
```

Slow the loop

The last line of the loop contains `sleep()`, which makes the program wait 0.2 seconds before looping again. We do this so that the loop doesn't work too quickly and use up too much processing power.

```
11     time.sleep(0.2)
```