Lesson 6

Round and Round We Go

code for schools

Previously, on Code For Schools...

- In a flow chart, what does this symbol mean?

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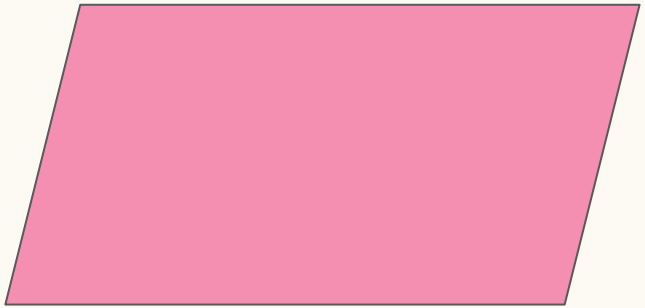
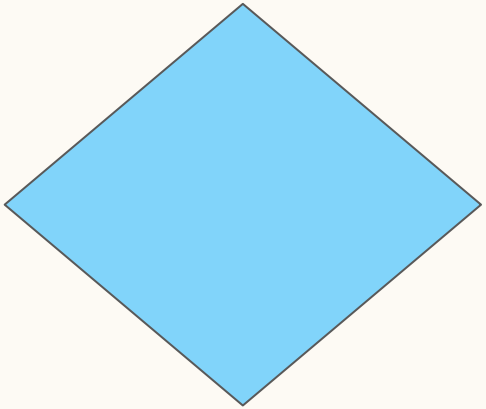


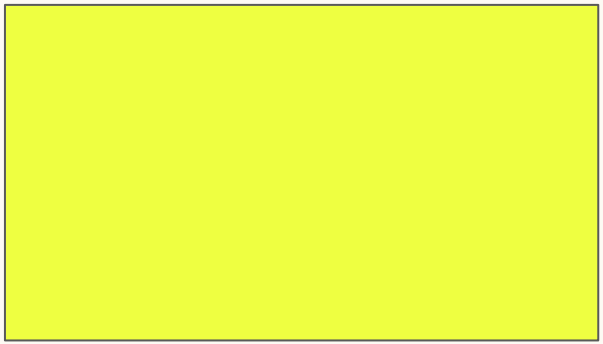
Previously, on Code For Schools...

- In a flow chart, what does this symbol mean?



Previously, on Code For Schools...

- In a flow chart, what does this symbol mean?



Previously, on Code For Schools...

- What are two things wrong with this section of code?

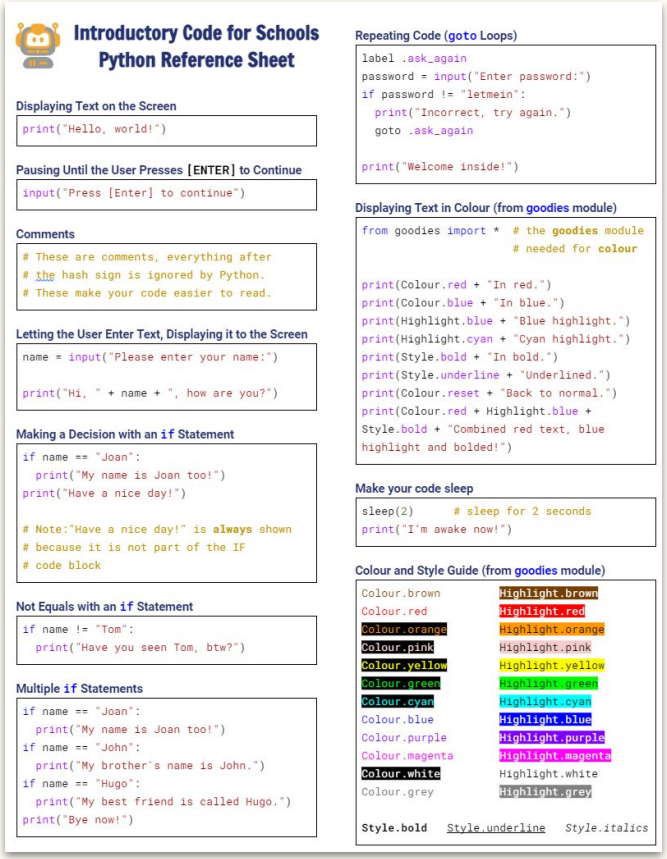
```
colour = "Green"
if colour = "green":
  print("Green is my favourite colour too!")
```

Learning objectives

By the end of this lesson:

- I can repeat parts of my code over and over again until something happens

Python Reference Sheet



Introductory Code for Schools
Python Reference Sheet

Displaying Text on the Screen

```
print("Hello, world!")
```

Pausing Until the User Presses [ENTER] to Continue

```
input("Press [Enter] to continue")
```

Comments

```
# These are comments, everything after
# the hash sign is ignored by Python.
# These make your code easier to read.
```

Letting the User Enter Text, Displaying it to the Screen

```
name = input("Please enter your name:")

print("Hi, " + name + ", how are you?")
```

Making a Decision with an `if` Statement

```
if name == "Joan":
  print("My name is Joan too!")
print("Have a nice day!")

# Note:"Have a nice day!" is always shown
# because it is not part of the IF
# code block
```

Not Equals with an `if` Statement

```
if name != "Tom":
  print("Have you seen Tom, btw?")
```

Multiple `if` Statements

```
if name == "Joan":
  print("My name is Joan too!")
if name == "John":
  print("My brother's name is John.")
if name == "Hugo":
  print("My best friend is called Hugo.")
print("Bye now!")
```

Repeating Code (`goto` Loops)

```
label .ask_again
password = input("Enter password:")
if password != "letmein":
  print("Incorrect, try again.")
  goto .ask_again

print("Welcome inside!")
```

Displaying Text in Colour (from goodies module)

```
from goodies import *  # the goodies module
                       # needed for colour

print(Colour.red + "In red.")
print(Colour.blue + "In blue.")
print(Highlight.blue + "Blue highlight.")
print(Highlight.cyan + "Cyan highlight.")
print(Style.bold + "In bold.")
print(Style.underline + "Underlined.")
print(Colour.reset + "Back to normal.")
print(Colour.red + Highlight.blue +
Style.bold + "Combined red text, blue
highlight and bolded!")
```

Make your code sleep

```
sleep(2)      # sleep for 2 seconds
print("I'm awake now!")
```

Colour and Style Guide (from goodies module)

Colour.brown	Highlight.brown
Colour.red	Highlight.red
Colour.orange	Highlight.orange
Colour.pink	Highlight.pink
Colour.yellow	Highlight.yellow
Colour.green	Highlight.green
Colour.cyan	Highlight.cyan
Colour.blue	Highlight.blue
Colour.purple	Highlight.purple
Colour.magenta	Highlight.magenta
Colour.white	Highlight.white
Colour.grey	Highlight.grey

Style.bold Style.underline *Style.italics*

Python Reference Sheet

- Print it out, keep it handy and use it!
- Get it here

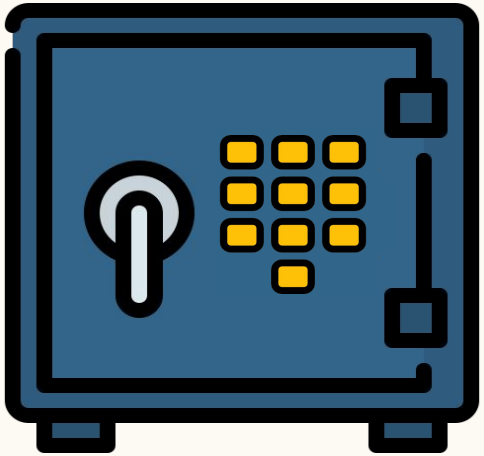
Demo 06.01: Can you crack the secret PIN number?

Notice how the program asks you again and again if you get it wrong?

We'll learn about how to get your code to repeat itself in this lesson

Click here to try to break in!

Demo 06.01: Can you crack the secret PIN number?



Notice how the program asks you again and again if you get it wrong?

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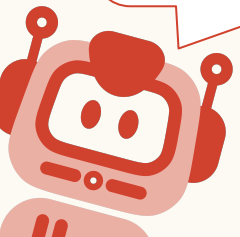
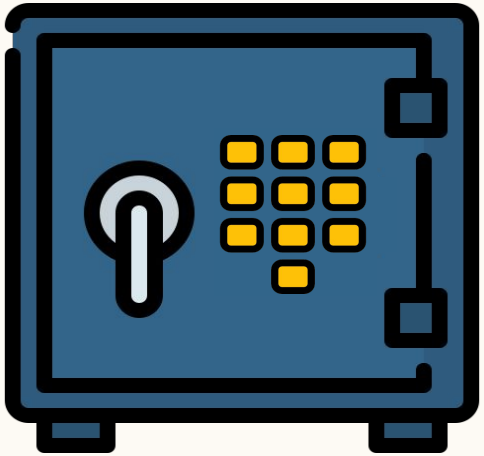
Hint 1: Did you know that computers represent everything as a number?

Even the letter "A" is a number!



Click here to try to break in!

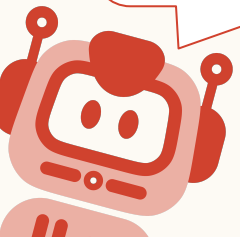
Demo 06.01: Can you crack the secret PIN number?



Notice how the program asks you again and again if you get it wrong?

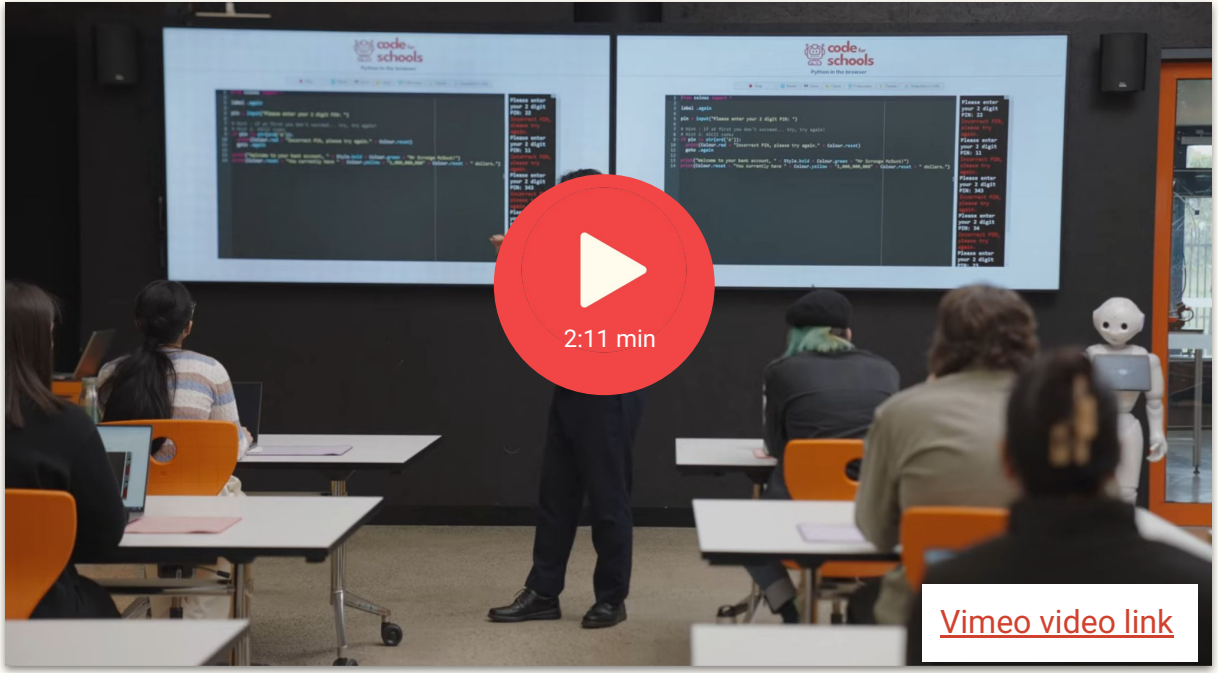
We'll learn about how to get your code to repeat itself in this lesson

Hint 2: What is the ASCII code for the capital letter "A"?



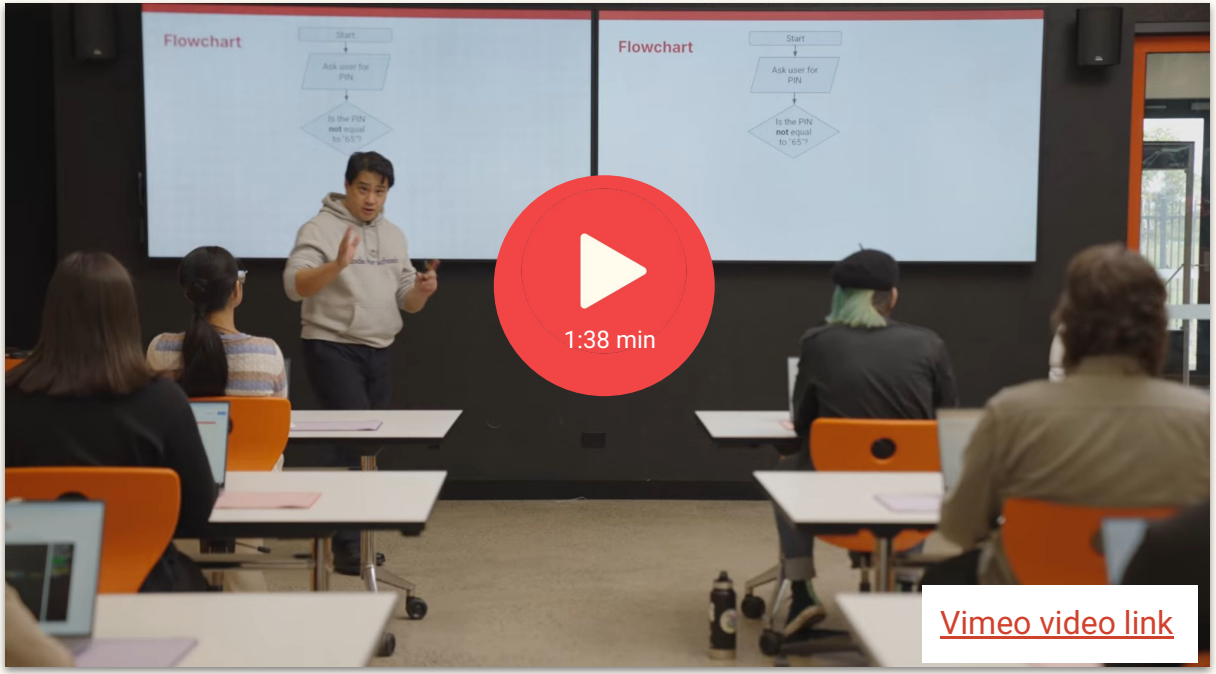
[Click here to try to break in!]

Cracking the Password!



Link to Accompanying Slides
(PDF, powerpoint)

Repeating Code Using Flowcharts



Link to Accompanying Slides
(PDF, powerpoint)

Why did the programmer get stuck in the shower?

Why did the programmer get stuck in the shower?

The instructions said: **`lather, rinse, repeat!`**

Using Loops in Your Code

Link to Accompanying Slides
(PDF, powerpoint)

Coding Activity: Easiest Game in the World!

Complete Question 1

(PDF, MS Word)

Activity 06.01

Easiest Game in the World

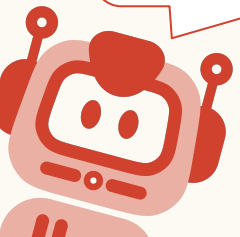
Coding Activity: A Chemistry Quiz

[Complete Question 2](#)
([PDF](#), [MS Word](#))

Activity 06.02
[A Chemistry Quiz](#)

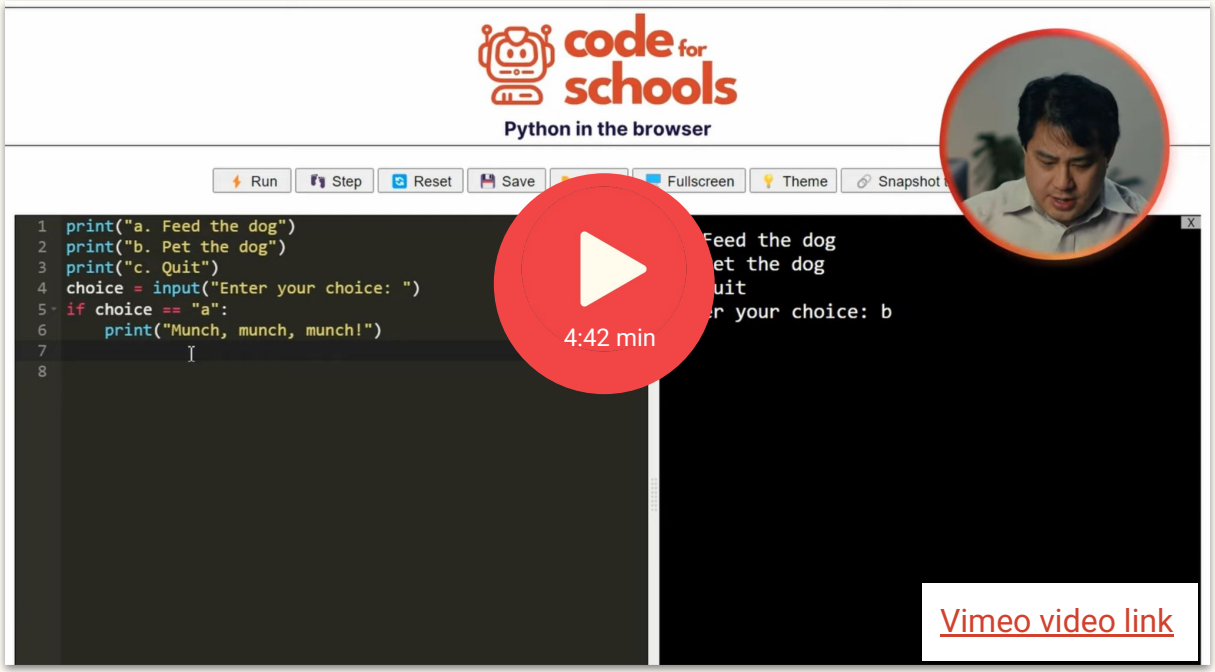
Demo 06.02: Virtual Pet Dog

Can you find the secret option to get your dog to bark?



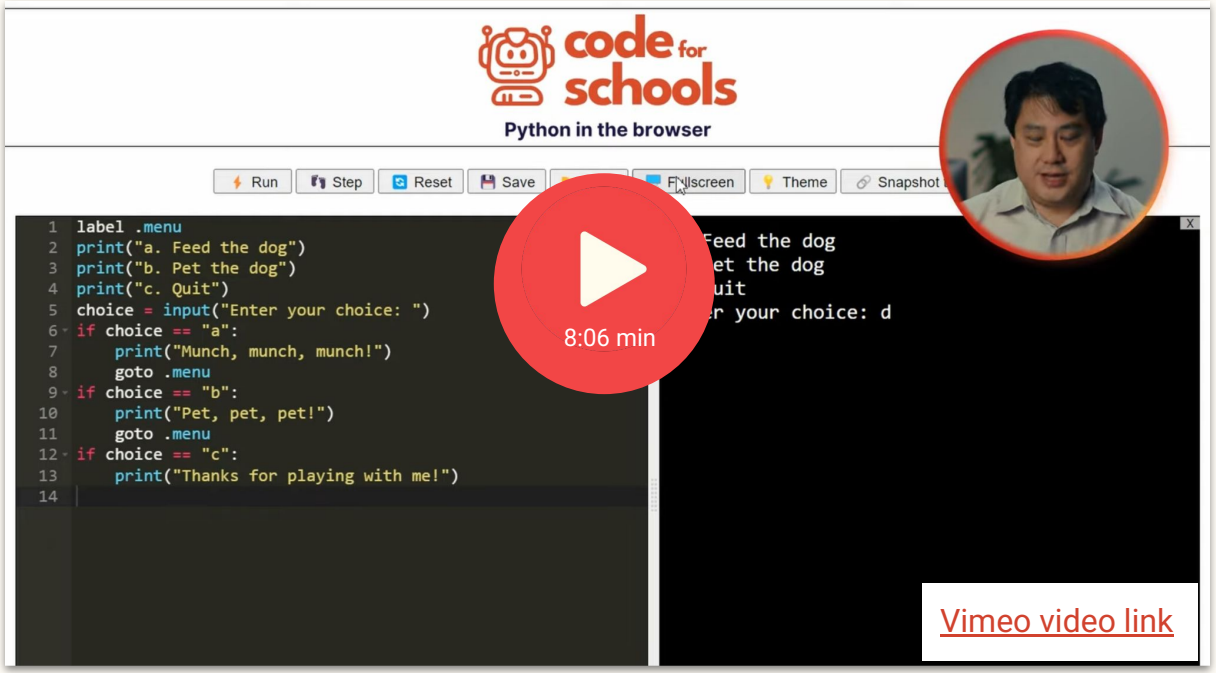
[Play with your Virtual Pet Dog here!]

Writing a Complete Program with a Menu of Options



Link to Accompanying Slides
(PDF, powerpoint)

Writing a Complete Program with a Menu of Options



Link to Accompanying Slides
(PDF, powerpoint)

Coding Activity: Your Weather Report

[Complete Question 3](#)
([PDF](#), [MS Word](#))

Activity 06.03
[Your Weather Report](#)

Coding Activity: Hi in Different Languages

Complete Question 4

(PDF, MS Word)

Activity 06.04

Hi in Different Languages

Coding Activity: Your Solar System!

Activity 06.05

Your Solar System

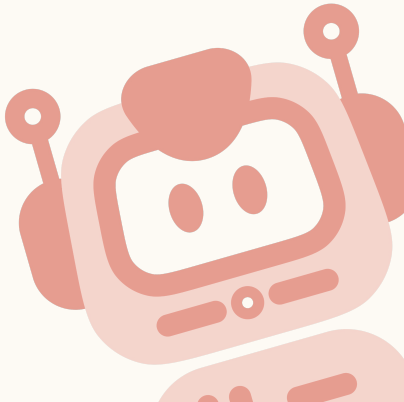
Coding Activity: Making Waves! (Extension)

Activity 06.06

Making Waves!

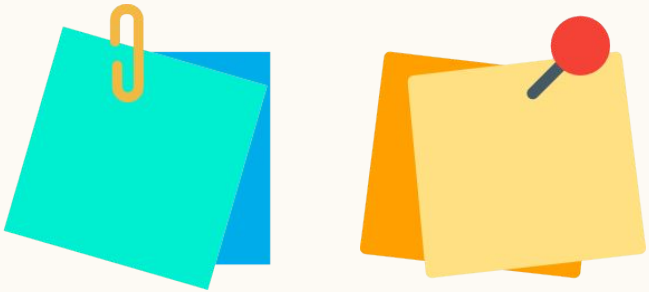
Review of Learning Objectives

- I can repeat parts of my code over and over again until something happens



Reflection: Exit pass

- What is one new thing you learnt today?
- Write it on a sticky note and stick it on the board before you leave the classroom



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