

Programming Ideas Simplified

Condition Switches Between Actions

Terms and conditions of use are on the last slide

Revising Loops

A loop is a set of instructions that are repeated

All loops can

Can replace a sequence where there is a pattern.

Has a flow of control

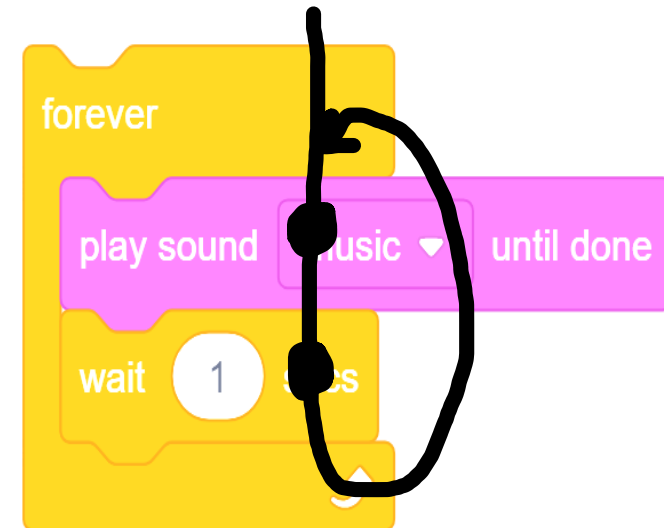
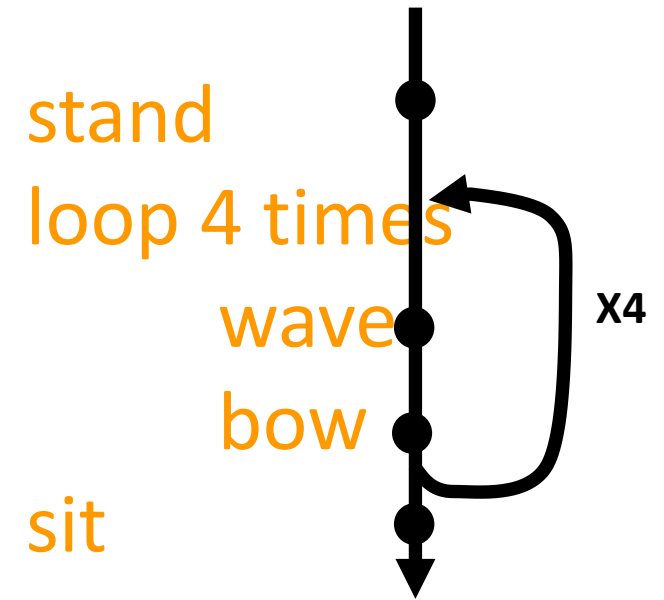
Can be used in an algorithm or in programming

A count-controlled-loop

- Is controlled by the number
- Ends after the number of repeats are complete
- Is called a repeat loop in Scratch programming

An indefinite infinite loop

- Is indefinite because we do not know how many times it will repeat or when it will end



Condition-starts-action **revision**


If you are hungry
put your hand up

Do you
remember
these?

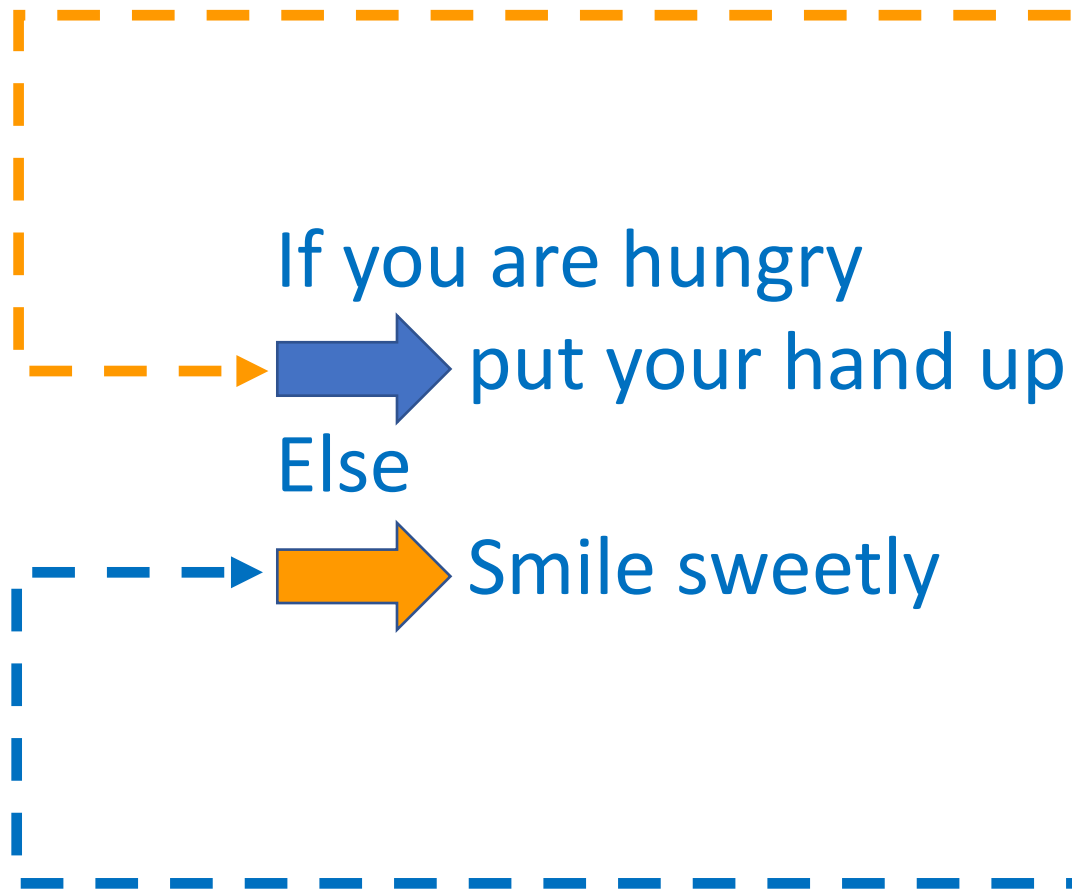
Condition-switches-between-actions

If you are hungry
put your hand up

Else
Smile sweetly



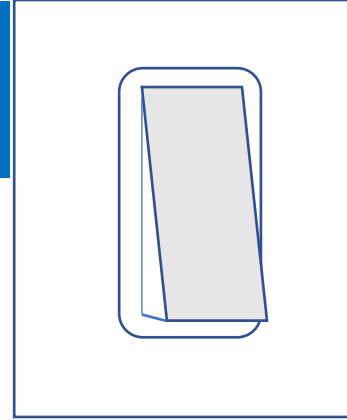
Condition-switches-between-actions



The action is indented to show that the action only happens if the condition is **met / true**

This action is indented to show that the action only happens if the condition is **NOT met / false**

Acts like a switch



If you are hungry

put your hand up

Else

Smile sweetly

If and else act like a switch

if the condition is **true**

if the condition is **false**

It can **never** be both

it is **either** true of false

Condition-switches-between-actions

stand
If you like drawing
 bow slowly
Else
 wave
Sit

Act out
this
everyday
algorithm

Condition-switches-between-actions

stand
If you like drawing
 bow slowly
Else
 wave
Sit

What actions are
NOT affected by
the condition?



Condition-switches-between-actions

stand

If you like drawing
 bow slowly

Else

 wave

Sit

What actions are
NOT affected by
the condition?

Condition-switches-between-actions

stand
If you like drawing
 bow slowly
Else
 wave
Sit

What actions **are**
affected by the
condition?



Condition-switches-between-actions

stand
If you like drawing
 bow slowly
Else
 wave
Sit

What actions **are**
affected by the
condition?



Condition-switches-between-actions

```
stand
If you like drawing
    bow slowly
Else
    wave
Sit
```

How many times
will the condition
be checked?



Condition-switches-between-actions

```
stand  
If you like drawing  
    bow slowly  
Else  
    wave  
Sit
```

How many times
will the condition
be checked?

Once only

Condition-switches-between-actions

If you like drawing
 bow slowly
Else
 wave

Now write your
own everyday
algorithm that
uses condition
switches
between actions

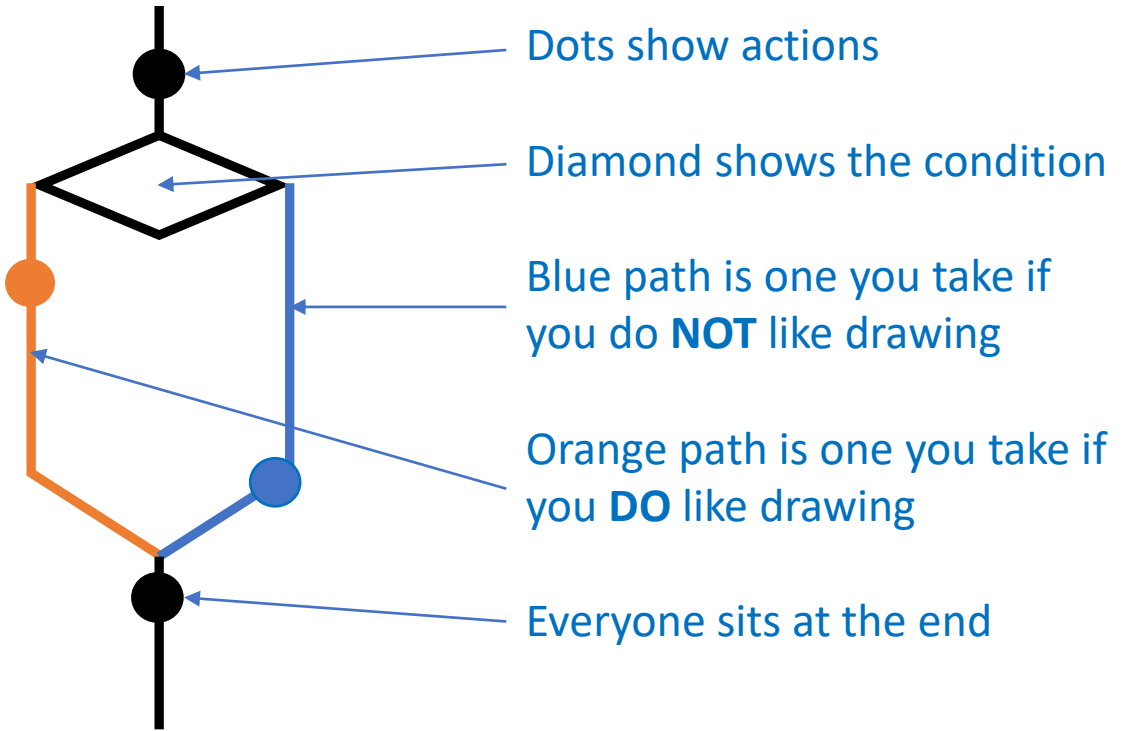
One mark if it makes sense
One mark if each section is on a new line
One mark if you indent the actions



Can your
neighbour
act it out?

Flow of control

stand
If you like drawing
bow slowly
Else
wave
Sit



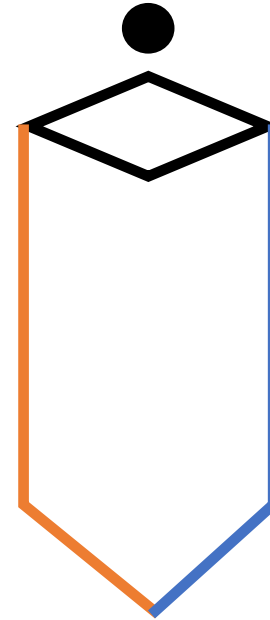
Flow of control

```
Laugh loudly
If you like programming
    wave
    tap head
Else
    groan loudly once
Do 3 times
    lift both arms
    lower both arms
```

Act out
this
everyday
algorithm

Flow of control

Laugh loudly
If you like programming
 wave
 tap head
Else
 groan loudly once
Do 3 times
 lift both arms
 lower both arms

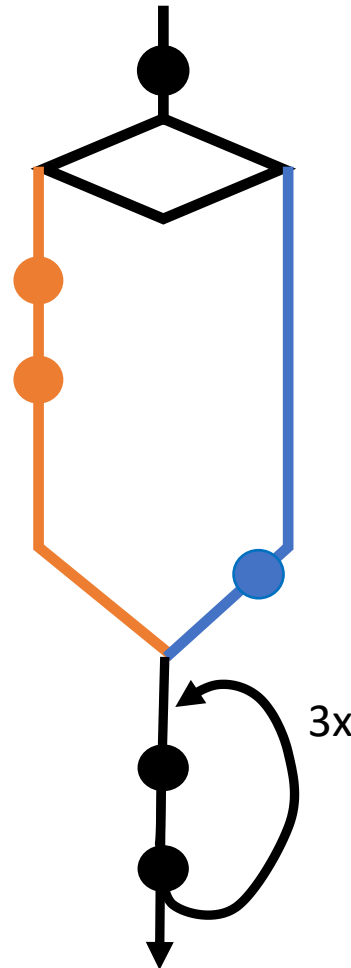


Draw the flow of control. Do not forget to draw the count controlled loop at the bottom



Flow of control

Laugh loudly
If you like programming
 wave
 tap head
Else
 groan loudly once
Do 3 times
 lift both arms
 lower both arms



Line at top (1 mark)

Two dots on one side only (1 mark)

One dot on other side (1 mark)

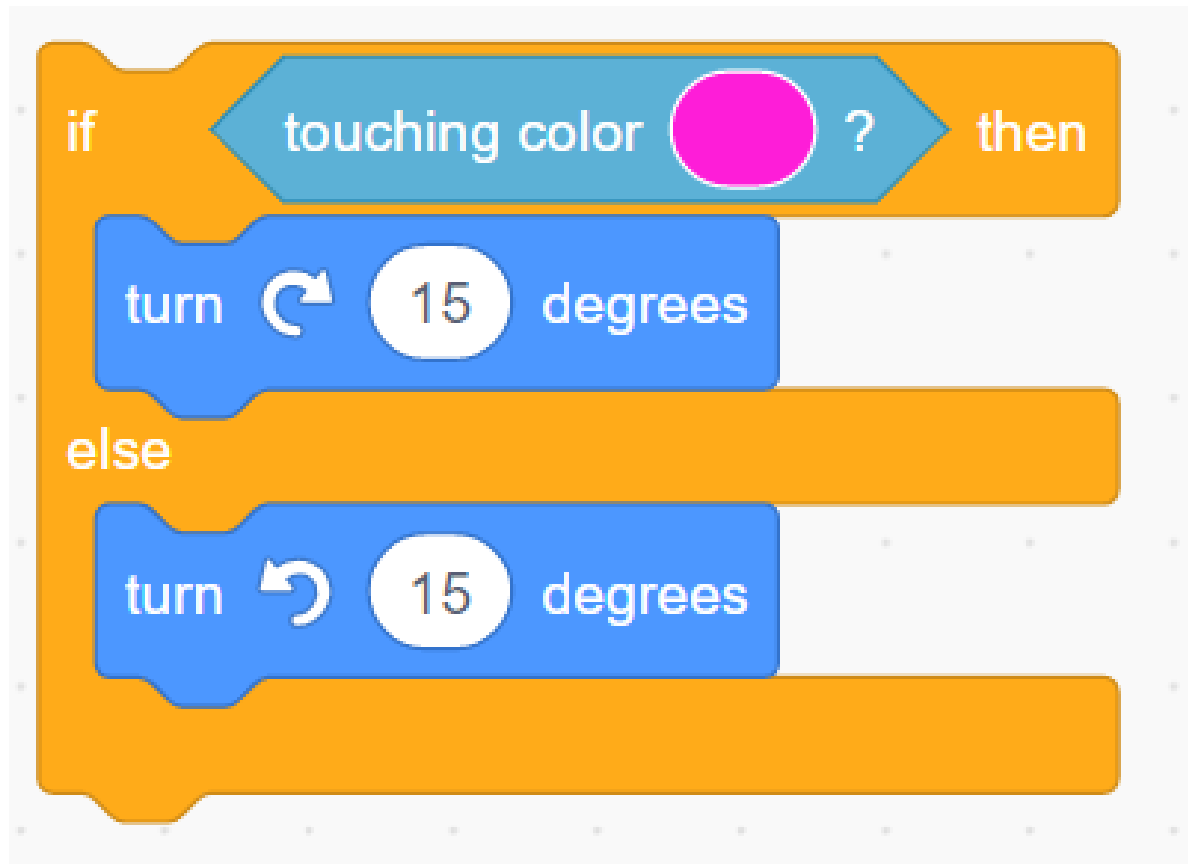
Loop line (1 mark)

3x (1 mark)

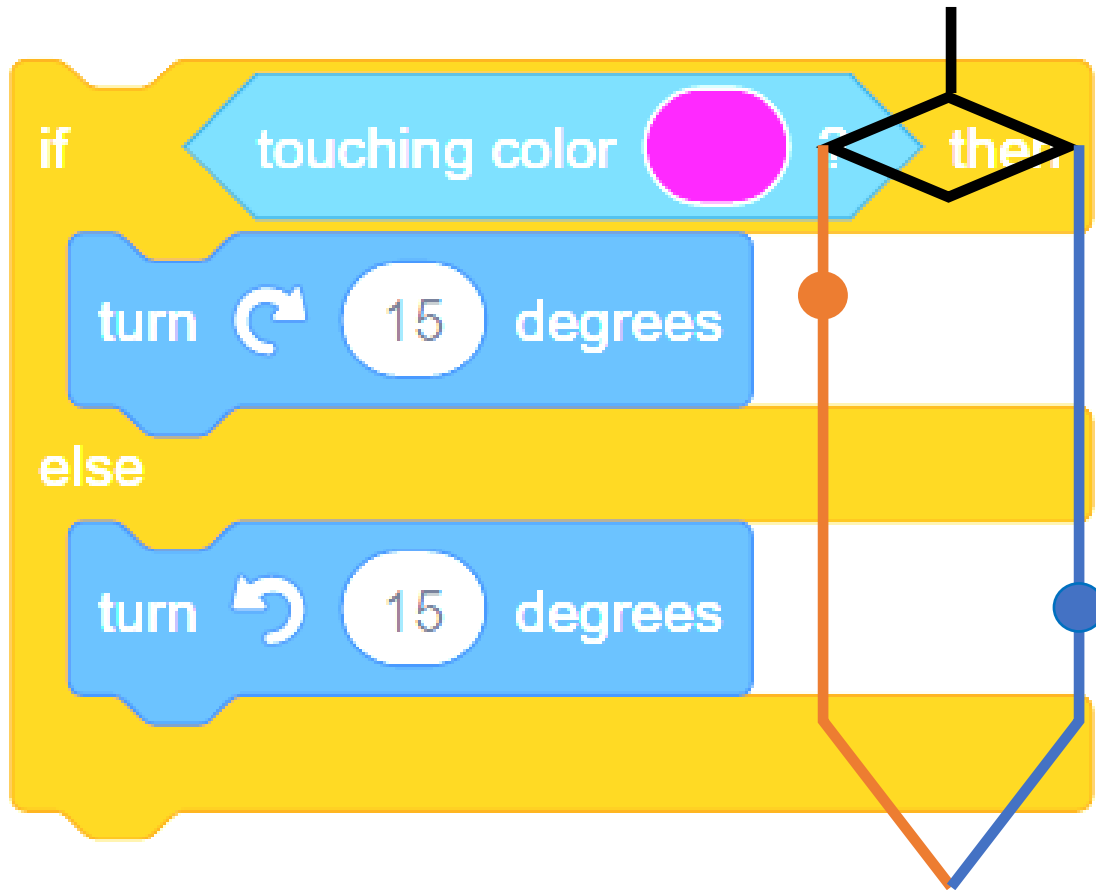
Two dots in loop (1 mark)

Loop is left with arrow (1 mark)

Condition-switches-between-actions in code



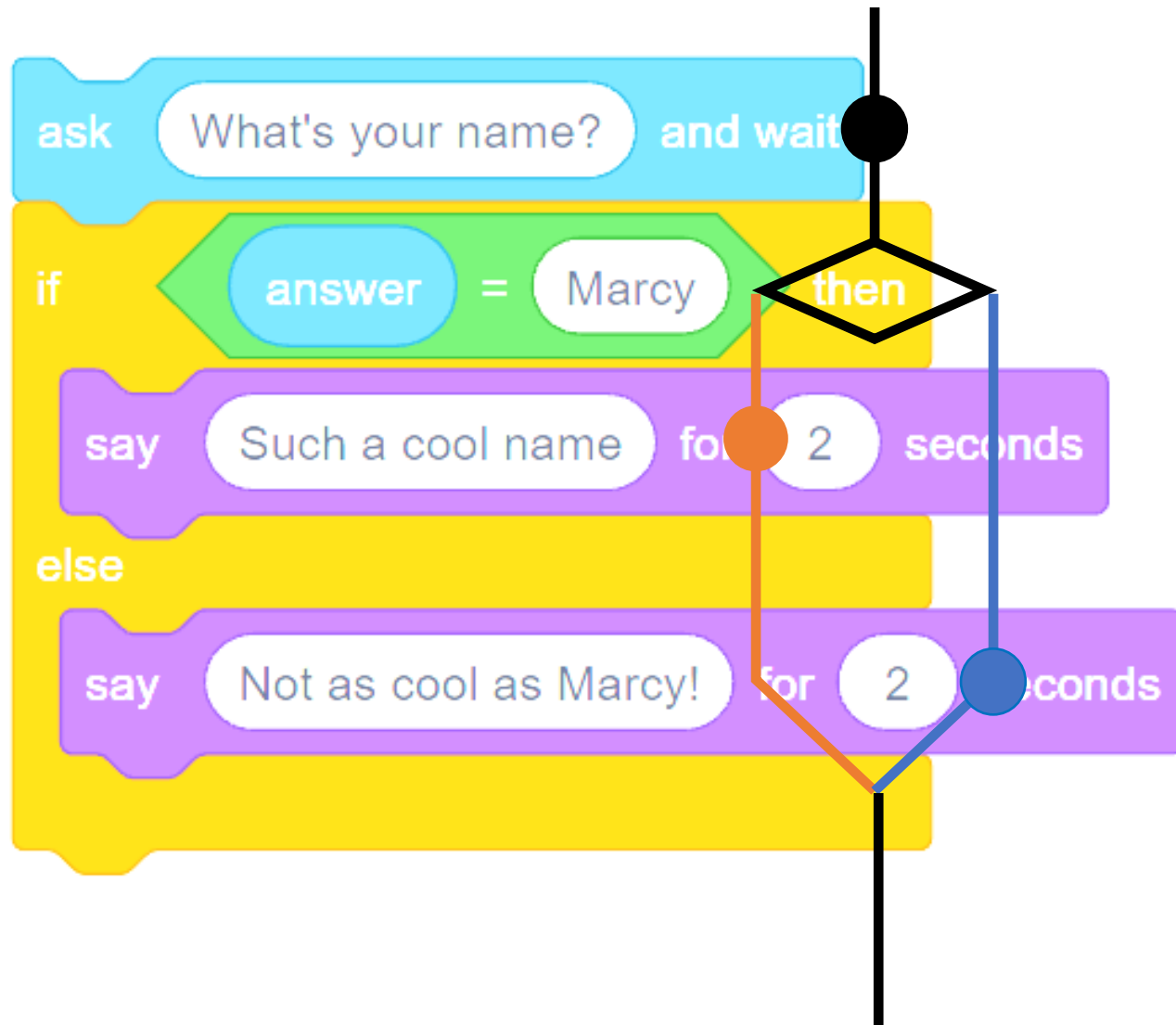
Condition-switches-between-actions in code



Condition-switches-between-actions in code

```
ask What's your name? and wait
if answer = Marcy then
  say Such a cool name for 2 seconds
else
  say Not as cool as Marcy! for 2 seconds
```

Condition-switches-between-actions in code



Conditional Selection Knowledge

A condition is a state we can check to see if it is true or false

Conditions

- Starts with an if
- Only checked once unless they are in a loop
- Two possible pathways True and False
- Are only checked when reached in flow of control
- **Actions can be started by conditions being true or false**

Terms of use

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Further book resources can be found here

<https://computing.hias.hants.gov.uk/course/view.php?id=51>