Learning Goals/Objectives

Be able to read, comprehend, trace, adapt and create

Python code that:

- Uses Boolean conditions
- Uses simple selection code
- Uses selection using IF for one situation.
- Uses selection using IF and ELSE for two situations
- Uses selection using IF, ELIF and ELSE for more than two situations

repl.it

Boolean Conditions

True

OR

False

Boolean Operators - Used in Conditions

== Equal to/The same as

!= Not equal to

> Greater than

>= Greater than or equal to

< Less than

<= Less than or equal to

Boolean Operators are used to compare TWO pieces of data

data1 ***boolean operator*** data2

What do these conditions return?

```
5 == 5
5 != 5
6 < 4
4 >= 4
4 > 4
```

```
“Giraffe” == “Giraffe”
“Giraffe” == “giraffe”
“Giraffe” != “Hippo”
```

repl.it

Selection

Starts the selection statement.

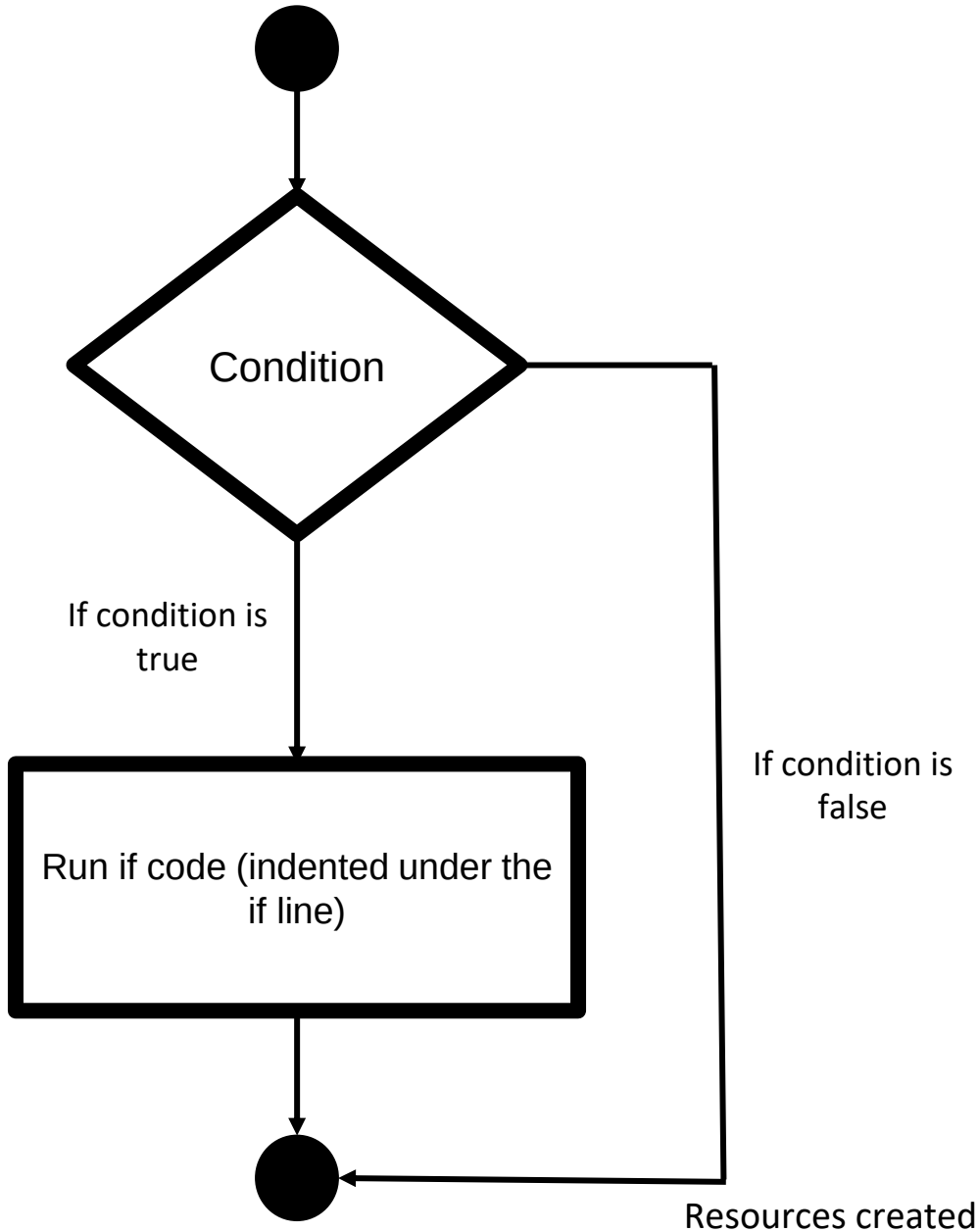
Colon - because syntax

```
if boolean condition:
    Do this
```

Indented - use the tab key. Your code won't work if you don't indent inside the selection statement.

This instruction is only carried out if the condition is TRUE.

Selection With One Outcome - Flowchart



repl.it

Selection With One Outcome - coding tips

1. Start with if.

2. Then a condition - use a Boolean operator to compare two pieces of data (variables or the actual data).

3. DON'T FORGET THE COLON after the condition.

```
if num1 == 10:
  print("This text is output because the condition was true")
```

4. Code that should run if the condition is **true.** DON'T FORGET TO INDENT (use the **tab** key)

repl.it

Selection With Two Outcomes

```
num1 = 100
num2 = 50

if num1 > num2:
    print("num1 is bigger")

print("End of program")
```

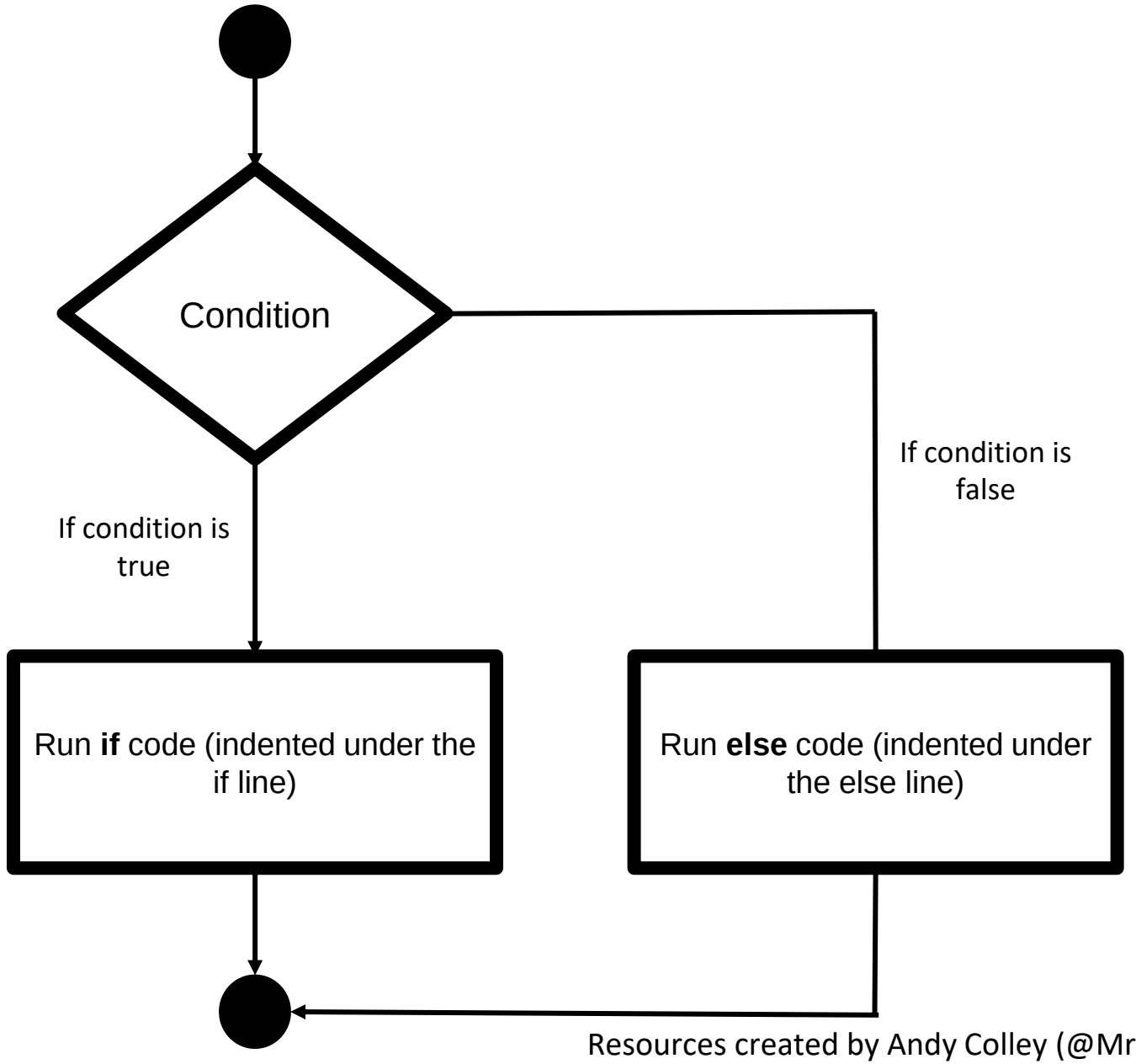
Selection - Two Outcomes

```
num1 = 100
num2 = 50
if num1 > num2:
    print("num1 is bigger")
else:
   print("num2 is bigger")
print("End of program")
```

Selection - Two Situations

```
num1 = 100
num2 = 50
if num1 > num2:
    print("num1 is bigger")
else:
   print("num2 is bigger")
print("End of program")
```

Selection With Two Outcomes - Flowchart



repl.it

Resources created by Andy Colley (@MrAColley)

Selection With Two Outcomes - coding tips

1. Start with if.

2. Then a condition - use a Boolean operator to compare two pieces of data (variables or the actual data).

3. DON'T FORGET THE COLON after the condition.

4. Code that should run if the condition is **true.** DON'T FORGET TO INDENT (use the **tab** key)

```
if num1 == 42:
    print("You have discovered the meaning of life!")
else:
    print("Sorry, you have failed to discover the meaning of life!")
```

5. Add an else. No condition needed, but you do need a colon.

6. Code that should run if the condition is **false.** DON'T FORGET TO INDENT (use the **tab** key)

Selection With Two Outcomes - Tasks Part 2

Task 3 - The login checker

Write a program that:

Stores the number 1337 in a variable called 'password'

Asks the user to guess the password and stores their input in a new variable (you choose the name)

If the user inputs 1337 then output 'Password correct', otherwise output 'Password incorrect'

Task 4 - Biggest number

Write a program that:

Asks the user to input two different numbers and stores them in two variables

Outputs the biggest number entered