🤔 Conditionals: Exercises

Q1) Kate's cat, Roary, loves catching moths. Write a program that determines whether or not it is time for Roary catch moths.

Variable Value	Output
`moths_in_house = True`	`Get the moths!`
`moths_in_house = False`	`No threats detected.`

Q2) But Roary can't actually get the moths by herself! Amend the previous program to determine whether or not it is time for Roary to go moth hunting.

Variable Value	Output
`moths_in_house = True` `mitch_is_home = True`	`Hoooman! Help me get the moths!`
`moths_in_house = False` `mitch_is_home = False`	`No threats detected.`
`moths_in_house = True` `mitch_is_home = False`	`Meooooooooooooow! Hissssss!`
`moths_in_house = False` `mitch_is_home = True`	`Climb on Mitch.`

Q3) Write a program that implements the algorithm for Red Light Cameras.

Variable Value	Output
`light_colour = "Red"` `car_detected = False`	`Do nothing.`
`light_colour = "Red"` `car_detected = True`	`Flash!`
`light_colour = "Green"` `car_detected = False`	`Do nothing.`
`light_colour = "Green"` `car_detected = True`	`Do nothing.`
`light_colour = "Amber"` `car_detected = False`	`Do nothing.`
`light_colour = "Amber"` `car_detected = True`	`Do nothing.`

Q4) Write a program that asks the user for their height, and determines whether or not they are tall enough to ride the rollercoaster, which has a height requirement of 120cms.

Input	**Output**
`120`	`Hop on!`
`50`	`Sorry, not today :(`
`191`	`Hop on!`

Q5) Write a program that asks the user to enter their username and password, and outputs a success message if they are correct, or a failure message if they are incorrect.

Input	**Output**

`fleur`
`password123`
	`Username: fleur`
	`Password: password123`
	`Correct!`

`fleur`
`PASSWORD123`
	`Username: fleur`
	`Password: PASSWORD123`
	`Incorrect!`

Q6) Write a program that asks the user to enter their email address and checks whether it is valid or not. For the purpose of this exercise, you can make the assumption that a valid email address contains a "@" symbol and a "." symbol.

Input	**Output**
`hayley@test.com`	`Email: hayley@test.com` `Valid email address.`
`hayley@test`	`Email: hayley@test` `Invalid email address.`
hayley.test@com	`Email: hayley.test@com` `Valid email address.`

* that last one looks a bit weird, but according to our assumptions, it should still be considered valid!