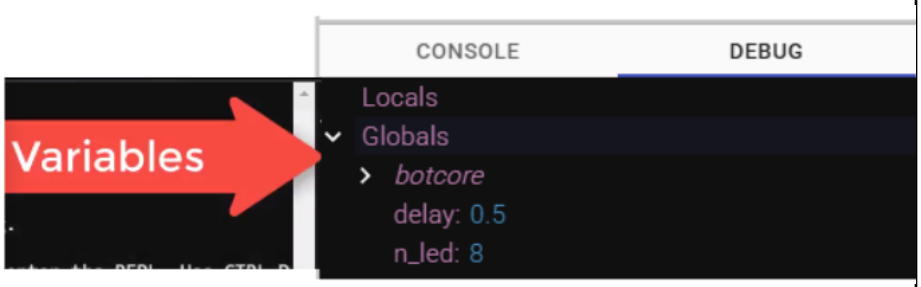
Unit 2 CodeBot Python Code By Mission

Mission 4 Lesson 1 – Animatronics (Objectives 1-3)	
`while True:`	Infinite loop
`leds.user_num(n_led, True)`	Use a variable for the LED number
`n_led = n_led + 1`	. Updating a variable; incrementing
Use the debugger to view variables. Open the console panel and click on the “debug” window while debugging.	
`if n_led == 8:` `    n_led = 0`	Check if a variable is the same as a specific value. If so, reset the variable to its initial value.
Mission 4 Lesson 2 – Animatronics (Objectives 4-7)	
`break`	Break out of a loop
`leds.ls_num(n_guests, True)`	Turn on a line sensor LED, using a variable to indicate which LED
`n_guests = n_guests + 1`	Increment
`spkr.pitch(440)`	Play a tone on the speaker. The argument is the pitch frequency in Hertz.
`spkr.off()`	Turn off the speaker
`buttons.was_pressed(0)`	Debounce a button press by resetting the internal status
Mission 4 Lesson 3 – Animatronics (Objectives 8-11)	
`while f < 1000:`	Basic structure of a while loop. In this example, the loop will continue to execute until f is equal to or greater than 1000.

`count = 0`
`while count < 10:`
`    count = count + 1`
	A while loop starts a block of code, so all commands that are to be repeated must be indented below the while loop.
	** The control variable (count) must be initialized before the loop starts.
	** The control variable (count) must be incremented inside the loop! Otherwise it is an infinite loop.

`from random import randrange`	Import the randrange() function from the random module (library)
`f = randrange(100, 1000)`	Generate a random integer within a range (possible numbers include first value up to one less than second value)

`def flashLEDs():`
`  {indented block of code}`
`def note(freq, duration):`
`  spkr.pitch(freq)`
`  sleep(duration)`
`  spkr.off()`
`  sleep(0.05)`
	Define a function. A function definition always has (), even if there are no parameters.

`flashLEDs()` `note(349, 0.4)`	Function call. A function call uses the name and (), but not the "def". If the function has parameters, the function call includes arguments, or values, that get passed to the parameters.
Mission 4 Lesson 4 – Animatronics (Objective 12)	
`F4 = 349` `C5 = 523`	Define a constant (usually with ALL CAPS)
`note(F4, 0.1)` `note(C5, 0.8)`	Use a constant as an argument in a function call