Unit 2 Vocabulary (Review and Exam)

1	Sequential	a. Moving through a sequence b. Running code in order, one line at a time c. A way to structure blocks of code by offsetting four spaces d. Decision points in code
2	Iterating	a. Moving through a sequence b. Running code in order, one line at a time c. A way to structure blocks of code by offsetting four spaces d. Decision points in code
3	Branching	a. Moving through a sequence b. Running code in order, one line at a time c. A way to structure blocks of code by offsetting four spaces d. Decision points in code
4	Variable	a. A variable included in a function definition b. A named chunk of code you can run anytime by calling it c. A specific number used in code d. A name for a container that stores information
5	Function	a. A variable included in a function definition b. A named chunk of code you can run anytime by calling it c. A specific number used in code d. A name for a container that stores information
6	Parameter	a. A variable included in a function definition b. A named chunk of code you can run anytime by calling it c. A specific number used in code d. A name for a container that stores information
7	Literal	a. A variable included in a function definition b. A named chunk of code you can run anytime by calling it c. A specific number used in code d. A name for a container that stores information
8	While loop	a. Repeating a block of code while a condition is true b. Choosing a path in code based on a condition c. Repeating a block of code across a range d. Repeating a block of code continuously
9	For loop	a. Repeating a block of code while a condition is true b. Choosing a path in code based on a condition c. Repeating a block of code across a range d. Repeating a block of code continuously
10	Infinite loop	a. Repeating a block of code while a condition is true b. Choosing a path in code based on a condition c. Repeating a block of code across a range d. Repeating a block of code continuously
11	Initialize	a. The first value assigned to a variable b. Code that is easy to read and understand c. Updating a variable by adding 1 d. A precise sequence of instructions to complete a task
12	Increment	a. The first value assigned to a variable b. Code that is easy to read and understand c. Updating a variable by adding 1

		d. A precise sequence of instructions to complete a task
13	Algorithm	a. The first value assigned to a variable b. Code that is easy to read and understand c. Updating a variable by adding 1 d. A precise sequence of instructions to complete a task
14	Boolean	a. A sequence of items that are accessed by position b. A variable that is True or False c. The position of an item in a list d. The kind of value stored in a variable
15	Data type	a. A sequence of items that are accessed by position b. A variable that is True or False c. The position of an item in a list d. The kind of value stored in a variable
16	List	a. A sequence of items that are accessed by position b. A variable that is True or False c. The position of an item in a list d. The kind of value stored in a variable
17	Index	a. A sequence of items that are accessed by position b. A variable that is True or False c. The position of an item in a list d. The kind of value stored in a variable
18	State	a. When a program moves between modes b. The status of a system with different modes c. Hotkeys used to write code faster d. Using key arguments to change the look of printed text
19	Transition	a. When a program moves between modes b. The status of a system with different modes c. Hotkeys used to write code faster d. Using key arguments to change the look of printed text
20	String formatting	a. When a program moves between modes b. The status of a system with different modes c. Hotkeys used to write code faster d. Using key arguments to change the look of printed text

Unit 2 Review Questions (in Kahoot)

What line of code correctly initializes a count variable?	a. def count b. var count c. count is 0 d. count = 0
Which of the following is NOT a tool for debugging?	a. Using loops and variables b. Using print() statements in code c. Using the debugger d. Using a code tracing chart

How many times will the loop iterate?
`count = 0`
`while count < 4:`
`    count = count + 1`
`    print("count:", count)`
	a. 3
	b. 4
	c. 5
	d. Infinite loop

What is printed by the following code?
`count = 0`
`while count < 5:`
`    print(count, end=" ")`
`    count = count + 1`
`print("and ", count)`
	a. 1 2 3 4 and 5
	b. 0 1 2 3 and 4
	c. 1 2 3 4 5 and 6
	d. 0 1 2 3 4 and 5

What is printed by the following code?
`num = 0`
`for i in range(3):`
`    num = num + i`
`print(num)`
	a. 3
	b. 6
	c. 0
	d. num

What is printed by the following code?
`for i in range(5, 0, -1):`
`    print(i, end=', ')`
	a. 5, 4, 3, 2, 1, 0,
	b. 5, 4, 3, 2, 1,
	c. 4, 3, 2, 1, 0,
	d. 4, 3, 2, 1,

What is printed by the following code?
`for i in range(1, 6, 2):`
`    print(i, end=', ')`
	a. 1, 2, 3, 4, 5, 6,
	b. 1, 3, 5, 7,
	c. 1, 3, 5,
	d. 0, 2, 4, 6,

What line of code correctly defines a function?	a. define sweep_left() b. def sweep_left: c. sweep_left() d. def sweep_left():
What line of code correctly calls a function?	a. call sweep_left() b. def sweep_left: c. sweep_left() d. def sweep_left():

What does this code do?
`from botcore import *`
`from time import sleep`
`def sweep(num):`
`    for i in range(num):`
`        sweep_left()`
`        sweep_right()`
	a. Sweeps left and then right 3 times
	b. Sweeps left 3 times and then sweeps right 3 times
	c. Sweeps left and right 1 time
	d. Nothing - function wasn't called

What does this code do?	a. Sweeps left and then right 3 times b. Sweeps left 3 times and then sweeps right 3 times

``
from botcore import *
from time import sleep
def sweep(num):
    for i in range(num):
        sweep_left()
        sweep_right()
sweep(3)
``
	c. Sweeps left and right 1 time
	d. Nothing - function wasn't called

When in a loop, what code will wait for a button press before calling functions?	a. if buttons.was_pressed(0): b. while buttons.was_pressed(0): c. while not buttons.was_pressed(0): d. for not buttons.was_pressed(0):

What is the code for an **infinite loop**?	a. while count < 10: b. while True: c. while count == 0: d. if True:
What are the values of the **Boolean** data type?	a. 0 and 1 b. True and False c. Anything in range(10) d. and, or, not

Given the code, what is the value of **sound_on**?
`sound_on = True`
`sound_on = not sound_on`
	a. Not
	b. True
	c. False
	d. Causes an error

What code turns on an LED if the state variable is False?	a. leds.user(0) b. leds.user(sound_on) c. leds.pwr(sound_on) d. leds.pwr(not sound_on)

Given the code that uses bit-shift, what is the value of user_leds?
`user_leds = 0b00001`
`user_leds = 1 << 3`
	a. 0b00100
	b. 0b01000
	c. 0b10000
	d. Causes an error

What code correctly checks if a variable is the same as a literal?	a. if select = 1: b. if select == 1: c. select = 1 d. select == 1
What code correctly assigns a literal to a variable?	a. if select = 1: b. if select == 1: c. select = 1 d. select == 1

What does this code do?
`if tempo_select == len(tempo_list):`
`    tempo_select = 0`
	a. Updates the variable to 0 if the index limit is reached
	b. Updates the variable to 0 if the index limit is exceeded
	c. Updates the variable to the len when it is 0
	d. Updates the len() when it is the same as the variable

What does this code do?
`if buttons.was_pressed(0):`
`    sound_on = not sound_on`
	a. Toggles the state variable when BTN-0 is pressed
	b. Toggles the state variable when BTN-0 is not pressed
	c. Turns on the LED when the button is pressed
	d. Turns off the LED when the button is pressed

This code doesn't work correctly. How can it be fixed?
`while True:`
`    leds.user(0b11111111)`
`    sleep(0.1)`
`leds.user(0)`
`sleep(0.1)`
	a. Change leds.user(0) to leds.user(0b00000000)
	b. Change sleep(0.1) to sleep(1)
	c. Remove the indenting from the second and third lines
	d. Add indenting to the fourth and fifth lines

What is the first index of a list?	a. 0 b. 1 c. A d. Depends on the list

Given the code, what is the value of **number**?
`my_list = [10, 20, 30, 40]`
`number = my_list[2]`
	a. 2
	b. 10
	c. 20
	d. 30

What error does this code avoid?
`if tempo_select == len(tempo_list):`
`    tempo_select = 0`
	a. Undefined error
	b. Index out of range error
	c. Attribute error
	d. Name error

Unit 2 Exam Questions (in Microsoft Forms)

1	What line of code correctly initializes the **num** variable?	a. def num b. var num c. num = 0 d. num is 0
2	Which of the following is NOT a tool for debugging?	a. Using the debugger b. Using loops and variables c. Using print() statements in code d. Using a code tracing chart

3	How many times will the loop iterate?
	`count = 0`
	`while count < 3:`
	`    print(count, end=' ')`
	`    count = count + 1`
		a. 3 times
		b. 4 times
		c. 2 times
		d. Infinite loop

4	What is printed when the code runs?
	`count = 0`
	`while count < 3:`
	`    print(count, end=' ')`
	`    count = count + 1`
		a. 1 2 3
		b. 0 1 2
		c. 0 1 2 3
		d. 1 2 3 4

5	What is printed by the following code?
	`total = 0`
	`for i in range(5):`
	`    total = total + i`
	`print(total)`
		a. 10
		b. 15
		c. 5
		d. 6

6	What is printed when the code runs?
	`for i in range(4, 1, -1):`
	`    print(i, end=',')`
		a. An error occurs
		b. 4, 3, 2, 1,
		c. 3, 2, 1, 0,
		d. 4, 3, 2,

7	How many times will the loop iterate?
	`for i in range(0, 10, 3):`
	`    print(i, end=',')`
		a. An error occurs
		b. 2
		c. 3
		d. 4

8	What line of code correctly calls a function?	a. call sweep_left() b. def sweep_left: c. sweep_left() d. def sweep_left():
9	What line of code correctly defines a function?	a. define sweep_left() b. def sweep_left: c. sweep_left() d. def sweep_left():

10	What will happen when this code runs?
	`num = 2`
	`def main_function(num):`
	`    for i in range(num):`
	`        function_1()`
	`        function_2()`
		a. The main function calls function_1 and then function_2 twice.
		b. The main function calls function_1 twice and then function_2 twice
		c. The main function is repeated two times
		d. Nothing happens

11	What will happen when this code is executed?
	`def main_function(num):`
	`    for i in range(num):`
	`        function_1()`
	`        function_2()`
	
	`main_function(2)`
		a. The main function twice calls function_1 and then function_2.
		b. The main function calls function_1 twice and then function_2 twice
		c. The main function is repeated two times
		d. Nothing happens

12	When in a loop, what code will wait for a button press before calling functions?	a. if buttons.was_pressed(0): b. while buttons.was_pressed(0): c. while not buttons.was_pressed(0): d. for not buttons.was_pressed(0):
13	What are the values of the **Boolean** data type?	a. 0 and 1 b. True and False c. Anything in range(10) d. and, or, not
14	What is the code for an **infinite loop**?	a. while count < 10: b. while True: c. while count == 0: d. if True:

15	What is the final value of **sound_on** after the code runs?
	`sound_on = False`
	`sound_on = not sound_on`
	`sound_on = not sound_on`
		a. True
		b. False
		c. Not
		d. An error occurs

16	What code turns on an LED if the state variable is False?	a. leds.pwr(not sound_on) b. leds.user(0) c. leds.user(sound_on) d. leds.pwr(sound_on)

17	What is the final value of user_leds?
	`user_leds = 0b00000001`
	`user_leds = 1 << 2`
		a. 0b00000001
		b. 0b00000101
		c. 0b00000100
		d. An error occurs

18	What code correctly checks if a variable is the same as a literal?	a. if count == 0: b. if count = 0: c. count = 0 d. count == 0
19	What code correctly assigns a literal to a variable?	a. if count == 0: b. if count = 0: c. count = 0 d. count == 0

20	What does this code do?
	`if tempo_select == len(tempo_list):`
	`  tempo_select = 0`
		a. Updates the variable to 0 if the index limit is reached
		b. Updates the variable to 0 if the index limit is exceeded
		c. Updates the variable to the len when it is 0
		d. Updates the len() when it is the same as the variable

21	What error does this code avoid?
	`if tempo_select == len(tempo_list):`
	`  tempo_select = 0`
		A. Undefined error
		B. Attribute error
		C. Index out of range error
		D. Name error

22	What does this code do?
	`if buttons.was_pressed(0):`
	`  sound_on = not sound_on`
		a. Turns on the LED when the button is pressed
		b. Turns off the LED when the button is pressed
		c. Toggles the state variable when BTN-0 is pressed
		d. Toggles the state variable when BTN-0 is not pressed

23	This code doesn't work correctly. How can it be fixed?
	`while True:`
	`    leds.ls(0)`
	`    sleep(0.1)`
	`leds.ls(0b11111)`
	`sleep(0.2)`
		a. Change leds.user(0) to leds.user(0b00000000)
		b. Change leds.ls() to leds.user()
		c. Remove the indenting from the 2nd and 3rd lines
		d. Add indenting to the 4th and 5th lines

24	What is the first index of a list?	a. 0 b. 1 c. A d. Depends on the list

25	What is the value of **number** after the code runs?
	`my_list = [40, 30, 20, 10]`
	`number = my_list[2]`
		a. 40
		b. 30
		c. 20
		d. 10