

Review Kahoots for Unit 2

Mission 4 - Animatronics (Objectives 1-5)	
<p>What is the final value of number after the code is run?</p> <pre>number = 5 number = number + 2</pre>	<p>a) 5 b) 2 c) 7 d) 4</p>
<p>Which statement defines an infinite loop?</p>	<p>a) while x < count: b) while True: c) if buttons.was_pressed(0): d) buttons.is_pressed(1):</p>
<p>Will the following code turn on the LED?</p> <pre>from botcore import leds while True: leds.user_num(0, True)</pre>	<p>a) Always b) Never c) When num = 0 d) When a button is pressed</p>
<p>What is the correct code for break? (answer is b)</p>	<p>a) <pre>while True: break</pre> c) <pre>if buttons.was_pressed(0): while True: break</pre></p> <p>b) <pre>while True: if buttons.was_pressed(0): break</pre> d) <pre>while buttons.was_pressed(0): if True: break</pre></p>
<p>What statement will increment count?</p>	<p>a) count = number + 1 b) number = count + 1 c) count = 1 d) count = count + 1</p>
<p>What does this code do?</p> <pre>if ls_led == 5:</pre>	<p>a) Compares "ls_led" to the value 5, branching when "ls_led" is less than 5 b) Compares "ls_led" to the value 5, branching when "ls_led" is the same as 5 c) Assigns "ls_led" the value 5 d) Causes an error</p>
<p>What does this code do?</p> <pre>if ls_led = 5:</pre>	<p>a) Compares "ls_led" to the value 5, branching when "ls_led" is less than 5 b) Compares "ls_led" to the value 5, branching when "ls_led" is the same as 5 c) Assigns "ls_led" the value 5 d) Causes an error</p>

<p>What does this code do?</p> <pre>ls_led = ls_led + 1 if ls_led == 5: leds.ls_num(ls_led, False) ls_led = 0</pre>	<ul style="list-style-type: none"> a) Updates a variable and ensures it is always between 0 and 4 b) Updates a variable and ensures it is always between 1 and 5 c) Gives the update variable its initial value d) Causes an error
<p>What is the value of "ls_led" after the code runs?</p> <pre>ls_led = 4 ls_led = ls_led + 1 if ls_led == 5: leds.ls_num(ls_led, False) ls_led = 0</pre>	<ul style="list-style-type: none"> a) 4 b) 5 c) 0 d) 1
<p>What is the value of "ls_led" after the code runs?</p> <pre>ls_led = 0 ls_led = ls_led + 1 if ls_led == 5: leds.ls_num(ls_led, False) ls_led = 0</pre>	<ul style="list-style-type: none"> a) 4 b) 5 c) 0 d) 1

Mission 4 - Animatronics (Objectives 6-12)

<p>The buttons.was_pressed(0) function returns True when:</p>	<ul style="list-style-type: none"> a) The button has been pressed since was_pressed(0) was last called b) The button was pressed in the last second c) The button was pressed since the program started d) Every time it is called
<p>How many times will the LED flash when the code runs?</p> <pre>i = 0 while i < 3: leds.user_num(0, True) sleep(1.0) leds.user_num(0, False) sleep(1.0) i = i + 1</pre>	<ul style="list-style-type: none"> a) 3 times b) 2 times c) 4 times d) Infinite times (increment is outside the loop)
<p>How many times will the LED flash when the code runs?</p> <pre>i = 0 while i < 3: leds.user_num(0, True) sleep(1.0) leds.user_num(0, False) sleep(1.0) i = i + 1</pre>	<ul style="list-style-type: none"> a) 3 times b) 2 times c) 4 times d) Infinite times (increment is outside the loop)

<p>Given this code, what is the smallest possible value for number?</p> <pre>number = random.randrange(5, 10)</pre>	<ul style="list-style-type: none"> a) 4 b) 5 c) 10 d) 0
<p>Given this code, what is the largest possible value for number?</p> <pre>number = random.randrange(5, 10)</pre>	<ul style="list-style-type: none"> a) 4 b) 5 c) 10 d) 9
<p>Given this code, what are the possible values of ls_leds?</p> <pre>ls_leds = random.randrange(5)</pre>	<ul style="list-style-type: none"> a) 1, 2, 3, 4, 5 b) 0, 1, 2, 3, 4 c) All numbers up to and including 5 d) 5
<p>What is the purpose of this code:</p> <pre>def note(freq, duration):</pre>	<ul style="list-style-type: none"> a) Calls a function b) Assigns a value to note c) Defines a function d) Infinite loop
<p>What is the purpose of this code:</p> <pre>note(F4, 0.4)</pre>	<ul style="list-style-type: none"> a) Calls a function b) Assigns a value to note c) Defines a function d) Infinite loop
<p>Given this code, what are the parameters?</p> <pre>def note(freq, duration): spkr.pitch(freq) sleep(duration) spkr.off() sleep(0.05) note(F4, 0.4)</pre>	<ul style="list-style-type: none"> a) note b) freq, duration c) spkr.pitch, spkr.off d) F4, 0.4
<p>Given this code, what are the arguments?</p> <pre>def note(freq, duration): spkr.pitch(freq) sleep(duration) spkr.off() sleep(0.05) note(F4, 0.4)</pre>	<ul style="list-style-type: none"> a) note b) freq, duration c) spkr.pitch, spkr.off d) F4, 0.4

Mission 5 - Fence Patrol

What is the correct code for assigning a variable the value of a line sensor?

- a) `val = read.ls(0)`
- b) `ls(0) = read.val()`
- c) `val = ls.read(0)`
- d) `ls[0] = read.ls()`

What is the correct code for displaying the value of a variable on the console?

- a) `print("Line sensor:", val)`
- b) `console("Line sensor:", val)`
- c) `print = "Line sensor:", val`
- d) `print.console("Line sensor:", val)`

What type of data is assigned to "is_detected"?

```
is_detected = val < threshold
```

- a) A sensor value between 0 and 4095
- b) A Boolean True or False
- c) A line sensor number between 0 and 4
- d) A string "Yes" or "No"

What is the purpose of this code?

```
while True:  
    if buttons.was_pressed(0):  
        break
```

- a) Count the number of times button 0 is pressed
- b) Start the "while True" loop when button 0 is pressed
- c) Wait until button 0 is pressed before continuing the program run
- d) Causes an error

What is the purpose of the highlighted code?

```
n = 0  
while n < 5:  
    detect_line(n)  
    n = n + 1
```

- a) Increment the variable
- b) Initialize the variable
- c) Use the variable in a condition
- d) Update the variable

What is the purpose of the highlighted code?

```
n = 0  
while n < 5:  
    detect_line(n)  
    n = n + 1
```

- a) Increment the variable
- b) Initialize the variable
- c) Use the variable in a condition
- d) Update the variable

What is the purpose of the highlighted code?

```
n = 0  
while n < 5:  
    detect_line(n)  
    n = n + 1
```

- a) Increment the variable
- b) Initialize the variable
- c) Use the variable in a condition
- d) Update the variable

<p>What is the purpose of the highlighted code?</p> <pre>n = 0 while n < 5: detect_line(n) n = n + 1</pre>	<ul style="list-style-type: none"> a) Increment the variable b) Parameter c) Initialize the variable d) Argument
<p>What is the purpose of the highlighted code?</p> <pre>line_count = line_count + 1 if line_count == 256: line_count = 0</pre>	<ul style="list-style-type: none"> a) Increment the variable b) Check if the variable has reached the upper value c) Initialize the variable d) Reset the variable to the lower value
<p>What is the purpose of the highlighted code?</p> <pre>line_count = line_count + 1 if line_count == 256: line_count = 0</pre>	<ul style="list-style-type: none"> a) Increment the variable b) Check if the variable has reached the upper value c) Initialize the variable d) Reset the variable to the lower value
<p>What is the correct way to call this function?</p> <pre>def multiply(num1, num2): product = num1 * num2 return product</pre>	<ul style="list-style-type: none"> a) answer = multiply(2, 5) b) multiply(2, 5) c) def multiply(num1, num2): d) multiply(num1, num2)
<p>What is the purpose of the highlighted code?</p> <pre>def multiply(num1, num2): product = num1 * num2 return product answer = multiply(2, 5)</pre>	<ul style="list-style-type: none"> a) Define a function b) Parameters c) Return a value d) Arguments
<p>What is the purpose of the highlighted code?</p> <pre>def multiply(num1, num2): product = num1 * num2 return product answer = multiply(2, 5)</pre>	<ul style="list-style-type: none"> a) Define a function b) Parameters c) Return a value d) Arguments
<p>What is the purpose of the highlighted code?</p> <pre>def multiply(num1, num2): product = num1 * num2 return product answer = multiply(2, 5)</pre>	<ul style="list-style-type: none"> a) Define a function b) Parameters c) Return a value d) Arguments

<p>What is the value of answer when the code is run?</p> <pre>def multiply(num1, num2): product = num1 * num2 return product answer = multiply(2, 5)</pre>	<ul style="list-style-type: none"> a) 2, 5 b) 10 c) 7 d) An error occurs
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Unit 2 Vocabulary Review/Test (Missions 4-5: All questions are the computer science definition of ...)
(A total of 15 terms introduced in the missions, use the ones you want—same terms for review/ test)

Loop	<ul style="list-style-type: none"> a) Repetition that never ends because the condition is always true b) Changing the flow by repeating a block of code, subject to a condition c) A Boolean value used to repeat a block of code as long as it is True d) A comparison operator used to determine if two objects are the same
While Condition	<ul style="list-style-type: none"> a) Repetition that never ends because the condition is always true b) Changing the flow by repeating a block of code, subject to a condition c) A Boolean value used to repeat a block of code as long as it is True d) A comparison operator used to determine if two objects are the same
Infinite Loop	<ul style="list-style-type: none"> a) Repetition that never ends because the condition is always true b) Changing the flow by repeating a block of code, subject to a condition c) A Boolean value used to repeat a block of code as long as it is True d) A comparison operator used to determine if two objects are the same
Updating a variable	<ul style="list-style-type: none"> a) Changing the value of a variable by adding one to the old value b) Assigning a new value to a variable based on the old value c) Assignment operator used to assign a value to a variable d) A comparison operator used to determine if two objects are the same
Increment	<ul style="list-style-type: none"> a) Changing the value of a variable by adding one to the old value b) Assigning a new value to a variable based on the old value c) Assignment operator used to assign a value to a variable d) A comparison operator used to determine if two objects are the same
Single Equal	<ul style="list-style-type: none"> a) Updating a variable by adding one to the old value b) Assigning a new value to a variable based on the old value e c) Assignment operator used to assign a value to a variable d) A comparison operator used to determine if two objects are the same
Double Equal	<ul style="list-style-type: none"> a) Updating a variable by adding one to the old value b) Assigning a new value to a variable based on the old value of a variable c) Assignment operator used to assign a value to a variable d) A comparison operator used to determine if two objects are the same
Break	<ul style="list-style-type: none"> a) Continue the enclosing loop b) Exit the nearest enclosing loop c) Assigning a new value to a variable d) The condition used in a loop

Parameters	<ul style="list-style-type: none"> a) Variable names declared in a function definition that receive values b) Values that are passed to a function c) A list of variables d) Constants in a program with values that don't change
Function	<ul style="list-style-type: none"> a) A variable that gets its value from a function return b) A variable name declared in a function that receives a value c) A condition used in a loop d) A named chunk of code you can run anytime by calling it
Line Sensors	<ul style="list-style-type: none"> a) Programmable electric engines that power the wheels b) Light emitting diodes that produce light c) Photo reflective sensors that detect lines and boundaries d) Discs that rotate and count the IR light beams that pulse through slots
API	<ul style="list-style-type: none"> a) Advanced Programming Index b) Application Programming Interface c) Automatic Program Indenting d) Algorithms for Peripheral Interfaces
Analog	<ul style="list-style-type: none"> a) Infinite variations of measurement, like brightness or temperature b) Specific intervals of measurement, in equal intervals c) Changing one type of signal to a different type of signal d) Converting an integer to a string
ADC	<ul style="list-style-type: none"> a) Application to Digital Code b) Analog and Digital Conventions c) Analog to Digital Converter d) Arguments to Digital Conditions
REPL	<ul style="list-style-type: none"> a) The section of your program where functions are defined b) The command line that lets you type statements directly and observe the results c) Comments and whitespace in code that increase its readability d) The concept of not repeating yourself or repeating code twice

Unit 2 Concepts and Coding Kahoot Review (Missions 4, 5) / (questions from 3 review kahoots)

What statement will increment count?	<ul style="list-style-type: none"> a) count = number + 1 b) number = count + 1 c) count = 1 d) count = count + 1
What does this code do? <pre>if ls_led == 5:</pre>	<ul style="list-style-type: none"> a) Compares "ls_led" to the value 5, branching when "ls_led" is less than 5 b) Compares "ls_led" to the value 5, branching when "ls_led" is the same as 5 c) Assigns "ls_led" the value 5 d) Causes an error

<p>What does this code do?</p> <pre>if ls_led = 5:</pre>	<ul style="list-style-type: none"> a) Compares “ls_led” to the value 5, branching when “ls_led” is less than 5 b) Compares “ls_led” to the value 5, branching when “ls_led” is the same as 5 c) Assigns “ls_led” the value 5 d) Causes an error
<p>What does this code do?</p> <pre>ls_led = ls_led + 1 if ls_led == 5: leds.ls_num(ls_led, False) ls_led = 0</pre>	<ul style="list-style-type: none"> a) Updates a variable and ensures it is always between 0 and 4 b) Updates a variable and ensures it is always between 1 and 5 c) Gives the update variable its initial value d) Causes an error
<p>How many times will the LED flash when the code runs?</p> <pre>i = 0 while i < 3: leds.user_num(0, True) sleep(1.0) leds.user_num(0, False) sleep(1.0) i = i + 1</pre>	<ul style="list-style-type: none"> a) 3 times b) 2 times c) 4 times d) Infinite times (increment is outside the loop)
<p>How many times will the LED flash when the code runs?</p> <pre>i = 0 while i < 3: leds.user_num(0, True) sleep(1.0) leds.user_num(0, False) sleep(1.0) i = i + 1</pre>	<ul style="list-style-type: none"> a) 3 times b) 2 times c) 4 times d) Infinite times (increment is outside the loop)
<p>Given this code, what is the smallest possible value for number?</p> <pre>number = random.randrange(5, 10)</pre>	<ul style="list-style-type: none"> a) 4 b) 5 c) 10 d) 0
<p>Given this code, what is the largest possible value for number?</p> <pre>number = random.randrange(5, 10)</pre>	<ul style="list-style-type: none"> a) 4 b) 5 c) 10 d) 9
<p>What type of data is assigned to “is_detected”?</p> <pre>is_detected = val < threshold</pre>	<ul style="list-style-type: none"> a) A sensor value between 0 and 4095 b) A Boolean True or False c) A line sensor number between 0 and 4 d) A string “Yes” or “No”

<p>What is the purpose of this code?</p> <pre>while True: if buttons.was_pressed(0): break</pre>	<ul style="list-style-type: none"> a) Count the number of times button 0 is pressed b) Start the “while True” loop when button 0 is pressed c) Wait until button 0 is pressed before continuing the program run d) Causes an error
<p>What is the purpose of the highlighted code?</p> <pre>n = 0 while n < 5: detect_line(n) n = n + 1</pre>	<ul style="list-style-type: none"> a) Increment the variable b) Initialize the variable c) Use the variable in a condition d) Update the variable
<p>What is the purpose of the highlighted code?</p> <pre>n = 0 while n < 5: detect_line(n) n = n + 1</pre>	<ul style="list-style-type: none"> a) Increment the variable b) Initialize the variable c) Use the variable in a condition d) Update the variable
<p>What is the purpose of the highlighted code?</p> <pre>n = 0 while n < 5: detect_line(n) n = n + 1</pre>	<ul style="list-style-type: none"> a) Increment the variable b) Initialize the variable c) Use the variable in a condition d) Update the variable
<p>What is the purpose of the highlighted code?</p> <pre>n = 0 while n < 5: detect_line(n) n = n + 1</pre>	<ul style="list-style-type: none"> a) Increment the variable b) Parameter c) Initialize the variable d) Argument
<p>What is the purpose of the highlighted code?</p> <pre>line_count = line_count + 1 if line_count == 256: line_count = 0</pre>	<ul style="list-style-type: none"> a) Increment the variable b) Check if the variable has reached the upper value c) Initialize the variable d) Reset the variable to the lower value
<p>What is the purpose of the highlighted code?</p> <pre>line_count = line_count + 1 if line_count == 256: line_count = 0</pre>	<ul style="list-style-type: none"> a) Increment the variable b) Check if the variable has reached the upper value c) Initialize the variable d) Reset the variable to the lower value

<p>What is the purpose of the highlighted code?</p> <pre>def multiply(num1, num2): product = num1 * num2 return product answer = multiply(2, 5)</pre>	<ul style="list-style-type: none"> a) Define a function b) Parameters c) Return a value d) Arguments
<p>What is the purpose of the highlighted code?</p> <pre>def multiply(num1, num2): product = num1 * num2 return product answer = multiply(2, 5)</pre>	<ul style="list-style-type: none"> a) Define a function b) Parameters c) Return a value d) Arguments
<p>What is the purpose of the highlighted code?</p> <pre>def multiply(num1, num2): product = num1 * num2 return product answer = multiply(2, 5)</pre>	<ul style="list-style-type: none"> e) Define a function f) Parameters g) Return a value h) Arguments
<p>What is the value of answer when the code is run?</p> <pre>def multiply(num1, num2): product = num1 * num2 return product answer = multiply(2, 5)</pre>	<ul style="list-style-type: none"> e) 2, 5 f) 10 g) 7 h) An error occurs

Unit 2 Concepts and Coding Test (Missions 4, 5) / (review questions with modifications)

<p>What statement will increment count?</p>	<ul style="list-style-type: none"> a) count = 1 b) count = count + 1 c) count = number + 1 d) number = count + 1
<p>What does this code do?</p> <pre>if user_num == 8:</pre>	<ul style="list-style-type: none"> a) Assigns user_num the value 8 b) Compares user_num to the value 8 and branches when user_num is more than 8 c) Compares user_num to the value 8 and branches when user_num is the same as 8 d) Causes an error

<p>What does this code do?</p> <pre>if user_num = 8:</pre>	<ul style="list-style-type: none"> a) Assigns user_num the value 8 b) Compares user_num to the value 8 and branches when user_num is more than 8 c) Compares user_num to the value 8 and branches when user_num is the same as 8 d) Causes an error
<p>What does this code do?</p> <pre>user_num = user_num + 1 if user_num == 8: user_num = 0</pre>	<ul style="list-style-type: none"> a) Gives the update variable its initial value b) Increments a variable and ensures it is always between 0 and 7 c) Increments a variable and ensures it is always between 1 and 8 d) Causes an error
<p>What is the purpose of the highlighted code?</p> <pre>user_num = user_num + 1 if user_num == 8: user_num = 0</pre>	<ul style="list-style-type: none"> a) Wraps around the variable to the lowest value b) Increments the variable c) Checks to see if the variable exceeded its highest value d) Initializes the variable
<p>What is the purpose of the highlighted code?</p> <pre>user_num = user_num + 1 if user_num == 8: user_num = 0</pre>	<ul style="list-style-type: none"> a) Wraps around the variable to the lowest value b) Increments the variable c) Checks to see if the variable exceeded its highest value d) Initializes the variable
<p>How many times will the speaker beep when the code runs?</p> <pre>count = 0 while count < 5: spkr.pitch(440) sleep(0.2) spkr.off() count = count + 1</pre>	<ul style="list-style-type: none"> a) 4 times b) 5 times c) 1 time d) Infinite times (increment is outside the loop)
<p>How many times will the speaker beep when the code runs?</p> <pre>count = 0 while count < 5: spkr.pitch(440) sleep(0.2) spkr.off() count = count + 1</pre>	<ul style="list-style-type: none"> a) 4 times b) 5 times c) 1 time d) Infinite times (increment is outside the loop)

<p>Given this code, what is the smallest possible value for “number”?</p> <pre>number = random.randrange(10, 20)</pre>	<p>a) 0 b) 9 c) 10 d) 20</p>
<p>Given this code, what is the smallest possible value for “number”?</p> <pre>number = random.randrange(10, 20)</pre>	<p>a) 10 b) 19 c) 20 d) 21</p>
<p>What type of data is assigned to “is_detected”?</p> <pre>is_detected = val < threshold</pre>	<p>a) A string “Yes” or “No” b) A Boolean True or False c) A sensor value between 0 and 4095 d) A LED number between 0 and 4</p>
<p>What is the purpose of this code?</p> <pre>while True: if buttons.was_pressed(0): break</pre>	<p>a) Start the “while True” loop when button 0 is pressed b) Count the number of times button 0 is pressed c) Wait until button 0 is pressed before continuing the program run d) Causes an error</p>
<p>What is the purpose of the highlighted code?</p> <pre>def scan_lines(): num = 0 while num < 5: val = ls.read(num) num = num + 1</pre>	<p>a) Initialize the variable b) Increment the variable c) Update the variable d) Use the variable in a condition</p>
<p>What is the purpose of the highlighted code?</p> <pre>def scan_lines(): num = 0 while num < 5: val = ls.read(num) num = num + 1</pre>	<p>a) Initialize the variable b) Increment the variable c) Update the variable d) Use the variable in a condition</p>
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<p>What is the purpose of the highlighted code?</p> <pre>def scan_lines(): num = 0 while num < 5: val = ls.read(num) num = num + 1</pre>	<p>a) Initialize the variable b) Increment the variable c) Update the variable d) Use the variable in a condition</p>
<p>What is the purpose of the highlighted code?</p> <pre>def scan_lines(): num = 0 while num < 5: val = ls.read(num) num = num + 1</pre>	<p>a) Initialize the variable b) Increment the variable c) Parameter d) Argument</p>

<p>What is the purpose of the highlighted code?</p> <pre>def calc_area(length, height): area = length * height / 2 return area answer = calc_area(3, 6)</pre>	<ul style="list-style-type: none">a) Define a functionb) Call a functionc) Return a valued) Calculate the area of a triangle
<p>What is the purpose of the highlighted code?</p> <pre>def calc_area(length, height): area = length * height / 2 return area answer = calc_area(3, 6)</pre>	<ul style="list-style-type: none">a) Parametersb) Call a functionc) Return a valued) Arguments
<p>What is the purpose of the highlighted code?</p> <pre>def calc_area(length, height): area = length * height / 2 return area answer = calc_area(3, 6)</pre>	<ul style="list-style-type: none">a) Parametersb) Call a functionc) Return a valued) Arguments
<p>What is the value of “answer” when the code is run?</p> <pre>def calc_area(length, height): area = length * height / 2 return area answer = calc_area(3, 6)</pre>	<ul style="list-style-type: none">a) 3, 6b) 18c) 9d) 36