Devin Georgin

CONNECTICUT COLLEGE   **COM110: Quiz2**

For this quiz you will write a response and upload your PDF result. Responses can be handwritten or typed but you will need to make sure to run a pdf conversion on either. Each short response should be a paragraph (3-5 sentences).

<u>circle all answers that apply</u>

[1 5pts] Structures that control other structures are called what in python:
- (a) boss programs ✗
- (b) super programs ✗
- (c) tree decisions → *example for a nasted control structure.*
- (d) control structures

[2 5pts] Computers execute all lines of python code:
- (a) when the script is executed → *script can be executed even though there's a func, cond., etc.*
- (b) as long as conditional statements do not contain a code body
- (c) when tree structures contain a code body ✗
- (d) as long as the boss program completes its task ✗

[3 5pts] In python3, how is code executed in a non-linear manner:
- (a) when the assignment operator is used ✗
- (b) when the code has a try/catch block in it ✗
- (c) when the code has a try/except section in it
- (d) when the if/else section is present

[4 5pts] In python3 the expression x < 5 or x > 5 evaluates to what:
- (a) nothing when x is 5 ✗
- (b) true when x is 5 ✗
- (c) false when x is 5
- (d) True when x is 4 or less

[5 5pts] In python3 the variable 10y is valid syntax:
- (a) sometimes
- (b) never → *Every variable must start with letter or underscore. NOT number.*
- (c) unless the user specifies
- (d) always

[6 5pts] In python3 the following x > y > z is: *it's allowed and return False*
- (a) allowed when x is 1, y is 1, z is 1
- (b) not allowed when x is 1, y is 1, z is 1 ✗
- (c) not allowed since there are three variables instead of two ✗
- (d) the same as (x > y) or (y > z)   *and*

[7 5pts] In python3 Boolean conditions mean that:
- (a) there is one way to write the solution ✗
- (b) there is more than one way to write the solution ✗
- (c) there is two ways to write the solution → *True or False*
- (d) there are three ways to write the solution ✗

[8 5pts] In python3 if we want to make sure one value x does not equal the same value for y:
- (a) x /= y ✗
- (b) x not equal ✗
- (c) x not == y ✗   *not (x==y)*
- (d) x != y

[9 short response 20 pts] From your reading of the course text assignments, what do you gather is the main purpose of branch conditions. What is the name that the book uses?

The primary purpose of the branch conditions is to create paths for the program to run in a specific way, depending on a specific condition. For example, a program can return "Class passed" when the variable "student_grade" is over 50 and return "Class failed" when the variable "student_grade" is under 50. They're efficient and essential for any computer program because we can nest them infinitely depending on our needs and form complex decision structures, for example, a decision tree (containing branches). The book uses the term "control structures" for the branch conditions.

[10 short response 20 pts] Does the diagram the book uses (called a flow chart) make more sense to you than the python3 syntax? For example, look at figure 7.3 and compare it to the code that appears below it for the quadratic equation. Include some reasoning to support your argument.

For me, the python3 syntax is more practical than the whole flow chart. Even though the point of the flow chart is to ease the understanding of the program by explaining it with shapes, arrows, etc., it's easier for me to understand the python3 syntax because it's shorter and easier to follow with my eyes than a huge chart. I think that flow charts are hard to understand in large programs because you have to follow the arrows one by one in a large chart, which can take a while to understand.

[11 short response 20 pts] Why do you think the above question (10) would be hard for a computer to answer. Try the question in ChatGPT and try to explain why the system fails at this task.

I think that question 10 would be hard for a computer to answer because a computer (assuming it has the required image processing) would understand the flow chart and the Python code equally. It won't have any feeling of easiness in understanding the Python code or the flow chart, and it won't have a preference for a flow chart or Python code as long as it has the required image processing.

When I asked the question to ChatGPT, it failed to compare the flow chart in Figure 7.3 to the python3 syntax. Its explanation for this failure is that it can't browse the internet or access any specific book content. Rather than responding to this situation explicitly, it made a general comparison between a flowchart and python3 syntax. In the end, it stated that the final verdict would depend on the user's background, and it didn't state its own opinion. ChatGPT failed to compare because it cannot do image processing and only accepts text input. Plus, I think that even though it can take image input, it wouldn't be able to have a preference because it'd understand both equally well.