**COMP130 HW1: Python fundamentals
instructor: John MacCormick**

Please remember to write any Python code in a **fixed width font** (e.g. Consolas or Courier New or Menlo or Monaco) and to ensure that it is **indented correctly** and that the lines are **single-spaced**. Example:

print('This code is in a fixed width font.')

print('Notice how every character is exactly below')

print('a character in the line above.')

print('Usually, there should not be any space between lines.')

if 1 + 1 == 2:

 print('Later in the semester, we will learn that')

 print('some blocks of code, like this conditional clause,')

 print('need to be indented.')

else:

 print('The else clause is indented too.')

print('Ask for help if you need it. Thanks!')

Question 1. (4 points) Write assignment statements that create each of the following variables and give them sensible values: age, name, radius, price

Question 2. (4 points) Write print statements that display the value of each of the variables that you created in the previous question.

Question 3. (4 points) Draw a state diagram showing the variables that you created in the previous questions along with their values. (It’s fine to draw this by hand on paper, take a snapshot, and paste it into your document. Or just write directly onto your homework, which will be submitted as hard copy anyway.)

Question 4. (4 points) What is the data type of each of the variables in the previous questions?

Question 5. (10 points) Write some Python code that first asks the user for their favorite color, then their favorite food. Then the program prints out a response including the favorite color and the favorite food. For example, the response might be “Yes, blue bacon is delicious!” for a user whose favorite color is blue and favorite food is bacon. You can feel free to be creative with your response or to follow the example pattern given here.

Consider the following snippet of Python code.

larger = max(25.36122, 39.88233)

rounded = round(larger, 1)

print(rounded)

Question 6. (3 points) Name the three functions used in the above snippet.

Question 7. (3 points) How many parameters does each function have?

Question 8. (5 points) Write some new code, similar to the above, that computes the minimum of two values then prints out this value rounded to two decimal places.

Question 9. (3 points) Write some code that sets two variables a and b to numerical values. Then set another variable c computed using the formula

$$c=\frac{5a+3b}{7a}$$

Question 10. (3 points) Write some code that sets two variables a and b to numerical values. Then set another variable c computed using the formula

$$c=\sqrt{a+b^{3}}$$

Recommended but ungraded: complete all exercises from textbook section 1.9 and section 2.11.

Total points on assignment: 43