This exam is a closed book, closed notes, closed laptops and smartphones, etc. exam.
All that you can use is either a pen or pencil.
All code shown and referred to in this exam is python code.
Do not spend too much time on any one question.

Name (Print) 

Honor Code statement: I pledge that this submission is solely my work. I pledge that I have not provided help to anyone. I pledge that I have not received help from anyone.

Signature 

<table>
<thead>
<tr>
<th>Section</th>
<th>Question Type</th>
<th>Question Number(s)</th>
<th>Points Possible</th>
<th>Points Earned</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>True/False</td>
<td>1-8</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>Multiple Choice</td>
<td>9-11</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>Find the error</td>
<td>12</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>Code Execution</td>
<td>13-19</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>Short Answer</td>
<td>20, 21</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Code Design</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VI</td>
<td>Multiple Answers</td>
<td>22, 23</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total without curve</td>
<td></td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Curve Adjustment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VII</td>
<td>Extra Credit</td>
<td>24, 25</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Exam Score</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
I. True/False
Instructions: Circle either True or False. No partial credit. 2 points each.

1. True / False In the below code the variable aVar is of type Boolean.
   
   ```python
   aVar = "True"
   ```

2. True / False Python is a case sensitive programming language

3. True / False Every while loop can be rewritten into an equivalent for loop that is able to perform the same task.

4. True / False The binary equivalent of the base 10 number 323 is 01001010011

5. True / False The / operator performs the same task as the // operator

6. True / False In the below code the variable numLeaves will be assigned the value True
   
   ```python
   numLeaves = False or (1 == 7 and 9 < 12)
   ```

7. True / False CPU is an acronym for Central Pituitary Unit

8. True / False Variables names cannot begin with a number.

II. Multiple Choice
Instructions: Circle the ONE letter that is the BEST answer choice from among those listed. No partial credit. 5 points each.

9. What will the below code print to the screen?

   ```python
   def countDrops():
       numDrops = 3
       for x in range(32, 4, -2):
           numDrops = numDrops / x
       return x
   print(countDrops())
   ```

   A. 3
   B. 6
   C. 9
   D. 12
   E. None of the above
10. What is the definition for the term **algorithm**?

A. The correct usage of keywords in a program which does not contain syntax errors  
B. A process or sequence of operations for a calculation or for solving a problem  
C. The rate at which a for loop iterates  
D. The standard in which python code is correctly indented  
E. None of the above

11. How/when is the assignment operator = used?

A. To check whether a Boolean expression is True or False  
B. To determine if a mathematical expression is logical  
C. To create a new variable and assign it a value, or to update the value of an existing variable  
D. None of the above

### III. Find the Error

**Instructions:** Circle all **syntax** errors. Partial credit is given. **10 points.**

```
12. def calcInterest((bank balance):
    balance = balance - 34 * bank
    Return 32

userInput1 = int(input(What is your bank's balance?))
userInput2 = float("34.54")
print("Your bank's balance is")
output = calcInterest(userInput1, userInput2)
print(output sep="")
```

### IV. Code Execution

**Instructions:** For each fragment of code, write into the box on the right what the program will print to the screen. Write into the box ONLY what the program will print out. If the program will not print anything, write the word NOTHING in the box. If python will generate an error, write ERROR> ANY code/writing OUTSIDE of the box will not be taken into consideration. **5 points each.**

```
13. numDogs = 22
numCats = 78
if ((numDogs+50) < numCats):
    print("dogs > cats")
else:
    print("cats > dogs")
```
14. while (False):
    calculation = 43 % 78 // 32 + 43
    print(calculation)
15. numPlanets = 9
    while not (numPlanets < 8):
        print("poor pluto")
        numPlanets = numPlanets - 1
16. while (True):
    break
    calculation = 43 % 78 // 32 + 43
    print(calculation)
17. daysInWeek = 5
    for day in range(0,5):
        daysInWeek = day + daysInWeek
    print(daysInWeek)
18. leafTips = 9
    if (leafTips == "9"):
        if (3 < 0):
            print("3 >= 0")
        elif (leafTips == 9):
            if (3 < 0):
                print("3 < 0")
        else:
            print("3 > 0")
        print("3 == 0")
19. color = "red"
    blue = 5
    print("color", blue, sep="")

V. Short Answer / Code Design : Provide a concise answer to a question, and/or write syntactically correct code to achieved the specified task. Partial credit is given. 7 points each.

20. Write python code that will print to the screen all even numbers greater than 0 but smaller than 1,000 that do NOT end with 0. The code, if run would therefore output 2, 4, 6, 8, 12, 14, 16, 18, 22, 24, etc.
21. Write python code that declares a function that has 2 parameters. The function should return the result when the second argument is raised to the power of the first argument. The function, if invoked, would therefore return 9 if the arguments were 2,3, and would return 243 if the arguments were 5,3. Assume that the input arguments are integers.

VI. Multiple Answers. Select ALL letters that specify correct answers for the question. One, two or more, or even all choices may constitute a full correct answer. Partial credit is given. 5 points each.

22. Which of the following is/are syntactically valid for loop declaration(s)?

A. for v in range(0, 34, 32, 23) :
B. for w in [ “34, 34, 32” ]
C. for x in TRUE :
D. For y in
E. for z in range (-32, 43, -1) :

23. Which of the following is/are false statement(s) about variables

A. The variable forty44 is a valid variable name
B. All variables are global variables
C. The variable dogName can be assigned the value -77
D. A variable declared in a function (either in the declaration or the function’s body) has local scope
E. It is impossible to infer the class type of a variable

VII. Extra credit. Partial credit not given.

Two extra credit questions will appear on the real exam.