**Python Basics (2.5pts/question) – Combination of Multiple Choice and Fill in the Blank Questions – 25 points total**

1. **Multiple Choice (select one):** Which of the following data types is **not** indexed?
   1. List
   2. **Dictionary <- This is my answer**
   3. String
   4. Tuple
2. **Multiple Choice (select one):** Which of the following data types is mutable?
   1. **List <- This is my answer**
   2. Decimal/Float
   3. String
   4. Tuple
3. **Multiple Choice (select one):** Generally, which type of loop would be the best choice for iterating over a List object?
   1. For
   2. **While <- This is my answer**
   3. Infinite
   4. None of the Above
4. **Multiple Choice (select one):** Which object-oriented programming principle is most associated with child objects deriving methods and properties from one or more parent objects?
   1. Abstraction
   2. Encapsulation
   3. **Inheritance <- This is my answer**
   4. Polymorphism
5. Which of the following is a valid benefit of Python
   1. Unlimited graphical interface options
   2. Ability to run on many operating systems/platforms
   3. **All of the above <- This is my answer**
   4. None of the above
6. **Multiple Choice (select one):** Select the best answer: Assume that we have an integer variable, *age=30*. What would the Python function *type(age)* tell you?
   1. The value of *age*
   2. **What type of data *age* contains <- This is my answer**
   3. All the attribute and methods associated with *age* based on data type
   4. None of the above
7. **Fill in the Blank**: Explain the difference between a Syntax Error and an Exception  
     
   **A syntax error leads to completion problem, and an exception is the run time error which would interrupt the program’s execution.**
8. **Multiple Choice (select one):** Which of the following types of methods has full access to a class instance's properties?
   1. Static
   2. Class
   3. **Instance <- This is my answer**
   4. Abstract
9. **Fill in the Blank**: What are the possible values of a Boolean variable?

**Binary values, true or false or 0 or 1**

1. **Multiple Choice (select one):** Which of the following if conditions requires both *a* to be **larger** than 10 **and** *b* **larger** than 150?
   1. if a > 10 or b > 150:
   2. **if a > 10 and b > 150 <- This is my answer**
   3. if a >= 10 or b >= 150
   4. if a >= 10 and b >= 150
2. **Extra Question: True/False (2 pts):** It is possible to directly instantiate an abstract class that uses the abc module.
   1. True
   2. **False <- This is my answer**

**Python Code Interpretation – Multiple Choice – 15 points total**

1. (2pts) What is the output of the attached code?

**for** i **in** range(0, 10):

**if** i < 4:

**continue**

**elif** i == 7:

**break**

**else**:

print(i)

1. 1,2,3,4,5,6,7
2. **4,5,6 <- This is my answer**
3. 4,5,6,7,8,9
4. 5,6,7,8,9
5. (2pts) For this code snippet – what is the most correct output?

**phrases = ["Think twice, code once.","Dont repeat yourself.",**

**"Scientists build to learn; Engineers learn to build."]**

**num\_phrases = len(phrases)**

**phrases.reverse()**

**for phrase in phrases:**

**print(phrase)**

1. **Scientists build to learn; Engineers learn to build.  
   Dont repeat yourself.  
   Think twice, code once. <- This is my answer**
2. Think twice, code once.  
   Dont repeat yourself.  
   Scientists build to learn; Engineers learn to build.
3. .dliub ot nrael sreenignE ;nrael ot dliub stsitneicS  
   flesruoy taeper tnoD  
   .ecno edoc ,eciwt knih
4. None of these
5. (5pts) Write Python code that computes the list of numbers between 0 and 100. Print only numbers that are both even and multiple of 7. – Hint this should be very similar to what you did on the FizzBuzz exercise. Only print our numbers that meet both conditions on this question (even and multiple of 7). You may either paste your code in your answer sheet or submit as an additional .py file
6. (6 pts) Making good passwords is a challenge. Good passwords include upper- and lower-case letters and also numbers, and even special characters. To get the full 5 points, write code that generates and prints to the screen, random 8-character passwords.

* You must use **either** lower case or upper-case characters or numbers or special characters.
* You will receive up to 2 extra points for using additional classes of characters – for a maximum of 7 points (2 extra credit).