

CS 0008: Introduction to Computer Programming with Python (Spring 2019)

Department of Computer Science, University of Pittsburgh

Dr. Constantinos Costa (costa.c@cs.pitt.edu)

Quiz 03 – Monday, April 1, 2019

Your name: ANSWER

Email:

Instructions

- Please write your name and your email on this booklet **now**
- This is a closed-book test. No books, notes or other external material or electronic devices are allowed. The standard academic honesty policies apply.
- There are 12 questions (12 multiple-choice, which 2 are bonus questions) on the test for a total of 100 points + 20 bonus.
- Considering the multiple-choice questions, please read the question and **all** the suggested answers carefully before deciding your answer. All questions have a **single** correct answer.
- Feel free to use the white space in this booklet for your notes.
- You must use a pen to write your answers in this booklet.
- You **must** return this booklet in order for your exam to be graded and you to pass the class.
- You have exactly **25 minutes** to complete the test. Good luck!

Questions	Points Achieved	Max Points
1–12		120
Total		120
Exam Total		100

1 [10 points] What is the output of the following program?

```
D = {1: 1, 2: '2', '1': 1, '2': 3}
D['1'] = 2
print(D[D[D[str(D[1])]])])
```

- A. 2
- B. 3
- C. '2'
- D. KeyError

ANSWER: B

2 [10 points] What is the output of the following program?

```
D = {1: {'A': {1: "A"}, 2: "B"}, 3: "C", 'B': "D", "D": 'E'}
print(D[D[D[1][2]]], end=" ")
print(D[D[1]["A"][2]])
```

- A. D C
- B. E B
- C. D B
- D. E KeyError

ANSWER: D

3 [10 points] What is the output of the following program?

```
dictionary = {"dog":10, "cat":9, "snake": 8}
print("dog" in dictionary)
```

- A. 10
- B. False
- C. True
- D. KeyError

ANSWER: C

4 [10 points] Which of these about a dictionary is **false**?

- A. The values of a dictionary can be accessed using keys
- B. The keys of a dictionary can be accessed using values
- C. Dictionaries may or may not be ordered
- D. None of the above

ANSWER: B

5 [10 points] What is the output of the following program?

```
sets = {3, 4, 5}
sets.update([1, 2, 3])
print(sets)
```

- A. {1, 2, 3, 4, 5}
- B. {3, 4, 5, 1, 2, 3}
- C. {1, 2, 3, 3, 4, 5}
- D. Error

ANSWER: A

6 [10 points] What is the output of the following program?

```
set1 = {1, 2, 3}
set2 = set1.add(4)
print(set2)
```

- A. 1, 2, 3, 4
- B. 1, 2, 3
- C. Invalid Syntax
- D. None

ANSWER: D

7 [10 points] What is the output of the following program?

```
animals = {'cat', 'dog', 'rabbit', 'guinea pig'}
animals.discard('fish')
print(animals)
```

- A. None
- B. 4
- C. KeyError
- D. {'guinea pig', 'cat', 'rabbit', 'dog'}

ANSWER: D

8 [10 points] What is the output of the following program?

```
class Test:
    def __init__(self):
        self.variable = 'Old'
        self.change(self.variable)

    def change(self, var):
        var = 'New'
```

```
# Main starts here
obj = Test()
print(obj.variable)
```

- A. Old
- B. New
- C. NameError
- D. None of the above

ANSWER: A

9 [10 points] What is the output of the following program?

```
class A:
    def __init__(self, n='CS0008'):
        self.name = n

class B(A):
    def __init__(self, roll):
        self.roll = roll
```

```
b = B(23)
print(b.name)
```

- A. CS0008
- B. None
- C. 23
- D. AttributeError

ANSWER: D

10 [10 points] Which piece of code creates an empty class?

- A. `class A:
 return`
- B. `class A:
 pass`
- C. `class A:`
- D. None of the above

ANSWER: B

11 [10 points] What is the output of the following program?

```
class Bird:
    def __init__(self):
        self.speed = 10

    def get_flight_speed(self):
        return self.speed

class Sparrow(Bird):
    def __init__(self):
        Bird.speed = 20

    def get_flight_speed(self):
        return self.speed

class Ostrich(Bird):
    def get_flight_speed(self):
        return "Ostriches cannot fly."

bird = Bird()
sparrow = Sparrow()
ostrich = Ostrich()

list1 = [bird, sparrow, ostrich]

for b in list1:
    print(b.get_flight_speed(), end=" ")
```

- A. 10 10 10
- B. 10 20 10
- C. 10 20 Ostriches cannot fly.
- D. AttributeError

ANSWER: C

12 [10 points] What is the output of the following program?

```
def recFun(test):  
    if (test < 1):  
        return  
    else :  
        print(test, end=" ")  
        recFun(test - 1)  
        print(test, end=" ")  
        return
```

```
recFun(3)
```

- A. 3 2 1 1 2 3
- B. 3 3 2 2 1 1
- C. 1 1 2 2 3 3
- D. RecursionError

ANSWER: A

Congratulations - you finished the test!