

# Introduction to Data Science

## STA217

### Homework 2, Part 1

Please remember to write your name and student ID.

Name: \_\_\_\_\_

Student ID: \_\_\_\_\_

1. What's the output of the following program? ( )

```
x='R\0S\0T'  
print(len(x))
```

- A) 3      B) 5      C) 7      D) 6

2. What's the output of the following program? ( )

```
print(0.1 + 0.2==0.3)
```

- A) -1      B) True      C) False      D) 0

3. What's the output of the following program? ( )

```
a=3.6e-1  
b=4.2e3  
print(b-a)
```

- A) 4199.64    B) 7.8e2      C) 0.6e-4      D) 4199.064

4. What's the output of the following program? ( )

```
s1, s2 = 'Mom', 'Dad'  
print("{} loves {}".format(s2, s1))
```

- A) Dad loves Mom    B) Mom loves Dad  
C) s1 loves s2      D) s2 loves s1

5. What's the output of the following program? ( )

```
t = "the World is so big, I want to see"  
s = t[20:21] + 'love ' + t[:9]  
print(s)
```

- A) I love the      B) I love World      C) I love the World    D) I love the Worl

6. What's the output of the following program? ( )

```
Test_list = list(range(6))  
print(6 in Test_list)
```

- A) 6      B) 6 in Test\_list      C) True      D) False

7. Given string tstr='television', which of the following program prints 'vi'? ( )

- A) print(tstr[4:7])    B) print(tstr[5:7])    C) print(tstr[-6:6])    D) print(tstr[4:-2])

8. What's the output of the following program? ( )

```
for i in range(1,6)
    If i%4==0:
        Continue
    else:
        print(i, end = ",")
```

A) 1,2,3      B) 1,2,3,4      C) 1,2,3,5      D) 1,2,3,5,6

9. What's the output of the following program? ( )

```
For s in "grandfather":
    if s=="d" or s=="h":
        Continue
    print(s, end = "")
```

A) grandfather      B) granfater      C) grand      D) father

10. What's the output of the following program? ( )

```
for s in "PythonNCRE":
    if s=="N":
        Break
    print(s, end= "")
```

A) PythonCRE    B) N      C) Python      D) PythonNCRE

11. What's the output of the following program? ( )

```
for i in reversed(range(7,4,-1)):
    print(i, end = "")
```

A) 7 6 5 4      B) 7 6 5      C) 5 6 7      D) 4 5 6 7

12. What's the output of the following program? ( )

```
for i in range(3):
    for j in range(dream):
        If j == "e":
            Continue
        Print(j, end = "")
```

A) dramdramdram    B) drdrdr    C) dreamdreamdream    D) dream

13. What's the output of the following program? ( )

```
for x in range(2,8):
    y = 0
    y += x
    print(y)
```

A) 27    B) 7      C) 8      D) 35

14. What's the output of the following program? ( )

```
x = 4
```

```

ca = '123456'
if str(x) in ca:
    print(ca.replace(ca[x], str(x-2)))

```

A) 123456      B) 123426      C) 5      D) 2

15. What's the output of the following program? ( )

```

ls=[[1,2,3], 'python', [[4,5,'ABC'],6],[7,8]]
print(ls[2][1])

```

A) 'ABC'    B) p      C) 4      D) 6

16. Which of the following statements on Python dictionary variables is right?  
( )

A) d={1,2]:1, [3,4]:3}  
 B) d={1:as, 2:sf}  
 C) d={(1,2):1, (3,4):3}  
 D) d={'python':1, 2:[tea, cat]}

17. What's the output of the following program? ( )

```

d = {'food':{'cake':1, 'egg':5}}
print(d.get('egg', 'no this food'))

```

A)egg      B)1      C)food    D)no this food

18. Given the dictionary variable d, Which of the following program prints the number 2? ( )

A) print(d['food']['egg'])  
 B) print(d['cake'])  
 C) print(d['food'][-1])  
 D) print(d['cake'][1])

19. Fill in the blank of the program below, the sequel outputting {40: 'Chinese', 20: 'English', 30: 'Mathematics'} is ( )

```

tb = {'English': 20, 'Mathematics': 30, 'Chinese': 40}

```

```

stb={ }

```

```

for it in tb.items( ):

```

```

    print(it)

```

```

    _____
print(stb)

```

A) stb[it[1]]=it[0]  
 B) stb[it[1]]=stb[it[0]]  
 C) stb[it[1]]=tb[it[1]]  
 D) D.stb[it[1]]=tb[it[0]]

20. Fill in the blank of the program below, the sequel outputting {0: [90, 'Aele'], 1: [87, 'Bob'], 2: [93, 'lala']} is ( )

```
x = [90, 87, 93]
y = ["Aelde", "Bob", "lala"]
z = { }
for i in range(len(x)):
```

---

```
    print(z)
```

- A) z[i] = [x[i],y[i]]
- B) z[i] = x[i], y[i]
- C) x[i] = list(zip(x,y))
- D) z[i] = x,y

21. Fill in the blank of the program below, the sequel outputting '90', '87', '93' for the file a.txt is ( )

```
y=['90', '87', '93']
l=''
with open("a.txt", 'w') as fo:
    for z in y:
```

---

```
        fo.write(l.strip( ' ', ''))
```

- A) l = ' '.join(y)
- B) l += " {} ".format(z)
- C) l += " { } ".format(z) + ' ',
- D) l += ' { } '.format(z) + ' ',

22. Contents inside country.csv are:

Bahama, Bahrain, Bangladesh, Barbados

Belarus, Belgium, Belize

Output of the sequels below is ( )

```
f=open("country.csv","r")
ls=f.read().split(",")
f.close()
print(ls)
```

- A) ['Bahama', 'Bahrain', 'Bangladesh', 'Barbados\nBelarus', 'Belgium', 'Belize']
- B) ['Bahama', 'Bahrain', 'Bangladesh', 'Barbados', 'Belarus', 'Belgium', 'Belize']
- C) ['Bahama, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize']
- D) ['Bahama', 'Bahrain', 'Bangladesh', 'Barbados', '\n', 'Belarus', 'Belgium', 'Belize']

23. When the user input 2, the output of the following sequels would be ( )

```
try:
    n = input("Please type in an integer:")
    def pow2(n):
        return n**5
    pow2(n)
```

```
except:
    print("Execution error")
```

A) 32  
B) 2  
C) The sequels have no output  
D) Execution error

24. Output of the following sequels is ( )

```
def fun(x):
    try:
        return x*4
    except:
        return x
print(fun("5"))
```

A) 20  
B) 5555  
C) 5  
D) 9

25. Output of the following sequels is ( )

```
f = lambda x, y: x if x<y else y
a=f("aa", "bb")
b=f("bb", "aa")
print(a,b)
```

A) aa aa  
B) aa bb  
C) bb aa  
D) bb bb

26. Output of the following sequels is ( )

```
def add(x):
    if x>0:
        return x+ add(x-1)
    else:
        return 0
```

```
result = add(10)
print(result)
```

A) 0  
B) 10  
C) 55  
D) 45

27. Output of the following sequels is ( )

```
l = 'abcd'
```

```
def f(x, result=['a', 'b', 'c', 'd'])
    if x:
        result.remove(x[-1])
        f(x[:-1])
    return result
```

print(f(1))

- A) ['a', 'b', 'c', 'd']
- B) ['b', 'c', 'd']
- C) ['a', 'b', 'c']
- D) [ ]

28. Which of the following inputs would yield output successfully ( )

```
def f(x, y=1, x=2)
    pass
```

- A) f( x=1, 2)
- B) f( x=1, y=2, z=3)
- C) f( 1, x=2, z=3)
- D) f( 1, y=2,3)

29. Function generating a random number in [1,99] is ( )

- A) random.randint(1,100)
- B) random.randint(0,99)
- C) random.randint(1,99)
- D) random.uniform(1,99)

30. Output of the following sequels would not be ( )

```
import random
```

```
ls = [2 ,3, 4, 6]
```

```
s = 10
```

```
k = random.randint(0,2)
```

```
s += ls[k]
```

```
print(s)
```

- A) 12
- B) 14
- C) 13
- D) 16