

## Problem Set 2 Output Screenshots

BDAT 1004

Submitted By: Muskan Mehta (200533685)

Q1.

```
b()
b()
b()
a
```

*# What value is displayed when the last expression (a) is evaluated? Explain your answer by indicating what happens in every execution of the code block.*

Out[1]: 6

In [2]: *# Answer 1: In the initial step, a is assigned value of 0. Then variable b is introduced and a is assigned as a global variable. # b variable uses c variable which adds 2 to the value of a. Then the b function is called 3 times and finally the value of a is 6. # So in the first output of b() the output would have been 2. Since the command is iterated 3 times hence the final output will be 6.*

Q2.

```
except:
    print('File '+a+' not found')
```

In [5]: fileLength('Midterm.py')

The filelength is 461

In [6]: fileLength('idterm.py')

File idterm.py not found

Q3.

```
a.put_in_pouch('firetruck')
a.put_in_pouch('kitten')
a.pouch_contents()
```

Out[8]: ['doll', 'firetruck', 'kitten']

In [9]: class Kangaroo(Marsupial):

```
    def __init__(self, name, pouch_contents=None):
```

```
print(b)
```

I am a Kangaroo located at coordinates (2,3)

```
In [11]: # Part b
b.put_in_pouch('doll')
b.put_in_pouch('firetruck')
b.put_in_pouch('kitten')
b.pouch_contents()
```

Out[11]: ['doll', 'firetruck', 'kitten']

```
In [12]: # Part c
b.jump(1,2)
b.jump(1,2)
b.jump(1,2)
print(b)
```

I am a Kangaroo located at coordinates (5,9)

Q4.

```
print(int(a));
```

```
In [14]: collatz(1)
```

1

```
In [15]: collatz(10)
```

10  
5  
16  
8  
4  
2  
1

Q5.

```
In [17]: binary(0)
```

Out[17]: 0

```
In [18]: binary(1)
```

Out[18]: 1

```
In [19]: binary(3)
```

Out[19]: 11

```
In [20]: binary(9)
```

Out[20]: 1001

```
In [21]: binary(16)
```

Out[21]: 10000

Q6.

```
In [23]: infile = open('w3c.html')
content = infile.read()
infile.close()
hp = HeadingParser()
hp.feed(content)
```

```
W3C Mission
Principles
```

```
In [29]: # Question 7 Implement recursive function webdir() that
```

Q7.

```
for link in links:
    if depth < 0 or i < 0:
        return 1
    else:
        webdir(link, depth, i)
```

```
In [30]: webdir('http://reed.cs.depaul.edu/lperkovic/test1.html', 0, 0)

http://reed.cs.depaul.edu/lperkovic/test1.html
```

Q8.

```
print(record)
```

```
(24.8,)
(28.4,)
(27.9,)
(27.6,)
(4.2,)
(8.3,)
(15.7,)
(10.4,)
(13.6,)
(20.7,)
(27.7,)
(22.2,)
('Mumbai',)
('London',)
('Cairo',)
('Mumbai', 'India', 'Fall', 27.6, 346)
('London', 'United Kingdom', 'Fall', 10.4, 218.5)
('Cairo', 'Egypt', 'Fall', 22.2, 4.5)
```

---

```

('Mumbai',)
('London',)
('Cairo',)
('Mumbai', 'India', 'Fall', 27.6, 346)
('London', 'United Kingdom', 'Fall', 10.4, 218.5)
('Cairo', 'Egypt', 'Fall', 22.2, 4.5)
('Mumbai', 'India', 'Winter', 24.8, 5.9)
('Mumbai', 'India', 'Spring', 28.4, 16.2)
('Mumbai', 'India', 'Summer', 27.9, 1549.4)
('Mumbai', 'India', 'Fall', 27.6, 346)
('Mumbai', 'India')
('Cairo', 'Egypt')
('Mumbai', 'India', 'Fall')
('London', 'United Kingdom', 'Winter')
('London', 'United Kingdom', 'Fall')
[(27.6,)]
(569.0, 'Fall')
(192.29999999999998, 'Spring')
(1706.5, 'Summer')
(230.1, 'Winter')

```

Q9.

```
# Part a
```

```
words = ['The', 'quick', 'brown', 'fox', 'jumps', 'over', 'the', 'lazy', 'dog']
[a.upper() for a in words]
```

```
Out[33]: ['THE', 'QUICK', 'BROWN', 'FOX', 'JUMPS', 'OVER', 'THE', 'LAZY', 'DOG']
```

```
In [34]: # Part b
```

```
[a.lower() for a in words]
```

```
Out[34]: ['the', 'quick', 'brown', 'fox', 'jumps', 'over', 'the', 'lazy', 'dog']
```

```
In [35]: # Part c
```

```
[len(a) for a in words]
```

```
Out[35]: [3, 5, 5, 3, 5, 4, 3, 4, 3]
```

```
In [36]: # Part d
```

```
[a.upper(),a.lower(),len(a)] for a in words]
```

In [36]: *# Part d*

```
[[a.upper(),a.lower(),len(a)] for a in words]
```

Out[36]:

```
[['THE', 'the', 3],  
 ['QUICK', 'quick', 5],  
 ['BROWN', 'brown', 5],  
 ['FOX', 'fox', 3],  
 ['JUMPS', 'jumps', 5],  
 ['OVER', 'over', 4],  
 ['THE', 'the', 3],  
 ['LAZY', 'lazy', 4],  
 ['DOG', 'dog', 3]]
```

In [37]: *# Part e*

```
[a for a in words if len(a) >= 4]
```

Out[37]:

```
['quick', 'brown', 'jumps', 'over', 'lazy']
```

---