1200 Final Exam Spring 2018 — Practice for Fall 2018

Output Tracing (20 points)

Write down the output of the following code snippets. If an error occurs, write down the output until the error occurs, then write "error".

Question	Output

#1
 	
``python
x = "ralphie"
y = "buffalo"
for i in range(0, len(x), 2):
    print(x[i])
    print(y[i + 1])
``	

#3
 	
``python
a = 0
for i in range(4, 8):
    b = []
    for j in range(1, i):
        b.append(i // j >= 2)
    print(b)
    a += b.count(False)
print(a)
``	

#4
 	
``python
# user enters "ZebRa" for following input 	
u = input("What is your favorite animal?")
low = u.lower()
up = u.upper()
 	
s = ""
for c in u:
``	

```
        if c in low:
            s = s + c
        else:
            s = c + s
print(s)
```

#5
```
ls1 = ["broccoli", "kale", "spinach",
"tomato"]
ls2 = ["apple", "orange", "grape", "tomato"]
v = 0
f = 0
for i in range(len(ls1)):
    if ls1[i] < ls2[i]:
        v += 1
        print(ls1[i])
    else:
        f += 1
        print(ls2[i])
print(v)
print(f)
```

Function Usage (20 points)
For the following functions, indicate the possible types for each parameter, then write a function name and a description of what it does.
When choosing types for parameters, circle all possibilities that will not cause errors or infinite loops.
#1
```
def func1(p1, p2):
    x = p1[:p2]
    y = p1[p2:]
    return y + x
```

p1:   string   float   int   boolean   list of strings list of ints   list of booleans   list of any type

p2:   string   float   int   boolean   list of strings list of ints   list of booleans   list of any type

What would you name this function and what does it do at a high level? (be specific):

#2

```
def func2(p1, p2, p3):
    ls = []
    for i in range(p1):
        ls2 = []
        for j in range(p2):
            ls2.append(p3)
        ls.append(ls2)
    return ls
```

p1:   string   float   int   boolean   any type

p2:   string   float   int   boolean   any type

p3:   string   float   int   boolean   any type

What would you name this function and what does it do at a high level? (be specific):

#4

```
def func4(p1):
    for i in range(len(p1) // 2):
        if p1[i] != p1[len(p1) - i - 1]:
            return False
    return True
```

p1:   string   float   int   boolean   list of strings   list of ints   list of booleans

What would you name this function and what does it do at a high level? (be specific):

Writing functions # 1 (15 points)

Write a function, `is_sorted`, that takes a list of elements, `ls`, and checks to see if it is sorted. A list counts as sorted if every element at index *i* is less than or equal to the element at index *i + 1*. Do not mutate the given list of values.

Function call	Return value
`is_sorted([1, 2, 2, 3])`	`True`
`is_sorted([1, 1, -1, 0, 2])`	`False`
`is_sorted([97])`	`True`
`is_sorted(["cat", "dog", "mouse", "wolf"])`	`True`
`is_sorted(["zoo", "yak", "xylophone"])`	`False`
`is_sorted([])`	`True`