Names _____

Lab 2: Intro to String Processing (Fun with text)

Getting Started

Open your laptop, launch VirtualBox and start Windows. Make sure JES is installed. If JES is not installed, download the Windows installer from the course web site (http://uni.edu/sergey/courses/cs1120) and run the installation.

Try to answer as many questions as you can. You may use JES to work out the solutions. Write your answers and/or solutions in the spaces provided.

Q1. What does the following code print?

```
direction = "off"
me = "I"
article = me.lower() + "t"
mephrase = " " + me
verb = "shake"
phrase1 = verb + " " + article + " " + direction
line1 = phrase1 + mephrase + " " + phrase1
line2 = line1 + (mephrase * 2)
print line1 + (" oooh" * 3)
print line2
print me + " " + line2
print me + " " + line1
```

A1.

Q2. Two of these "double" programs produce the following output:

```
>>>double_("apple")
aappppllee
```

Which one **doesn't**? **A2.** _____

```
def double1(string):
  target = ""
  for i in string:
    target = target + i + i
  print target

def double2(string):
  target = ""
  for ch in string:
    target = target + (2 * ch)
  print target

def double3(string):
  target = ""
  for char in string:
    target = char + char + target
  print target
```

Q3. Only one of these programs prints more than one exclamation point. Which one is it?

A3. _____

```
def exclaim1(somestring):
  target = "!"
  for char in somestring:
    target = target + char
  print target

def exclaim2(somestring):
  target = "!"
  for char in somestring:
    target = char + target
  print target

def exclaim3(somestring):
  target = ""
  for char in somestring:
    target = target + char + "!"
  print target
```

Q4. The following function prints a pyramid:

```
def pyramid(char):
  space = " "
  print 4 * space, char
  print 3 * space, 3 * char
  print 2 * space, 5 * char
  print space, 7 * char
```

```
>>> pyramid('x')
     x
    xxx
   xxxxx
  xxxxxxx
```

Write your own function that prints an inverted version of the same pyramid.

A4.

Q5. You are running a bingo game where you want to tweet the winner of each round of the game. You want to announce the name of who won, and how much they won in dollars. Make a function that takes a name and an amount as arguments, and then announces the win. For now, just print the statement that you will want to tweet later. (Hint: Remember that you are taking a number as input, which has to be converted to a string to concatenate it.)

A5.

Q6. A brain-teaser! Our pyramid function in Q4 is too rigid. Try to write a function that takes the number of rows as an argument:

```
>>> any_pyramid('x', 3)
  xxxxx
   xxx
    x
>>> any_pyramid('x', 5)
  xxxxxxxxx
   xxxxxxx
    xxxxx
     xxx
      x
>>> any_pyramid('x', 8)
  xxxxxxxxxxxxxxx
   xxxxxxxxxxxxx
    xxxxxxxxxxx
     xxxxxxxxx
      xxxxxxx
       xxxxx
        xxx
         x
```

To write this function you will need to use:
- a for loop to iterate over the rows
- a range() function to use with the for loop
- a second counter to keep track of the columns

For example, your function might contain the following:

```
initialize space character
initialize second counter
for i in range(a-number):
      print [something]
      change your your second counter
```

A. Your solution: