Collocation and the state of th	CS1301 - Exam 3	Name:	Your Grading TA:
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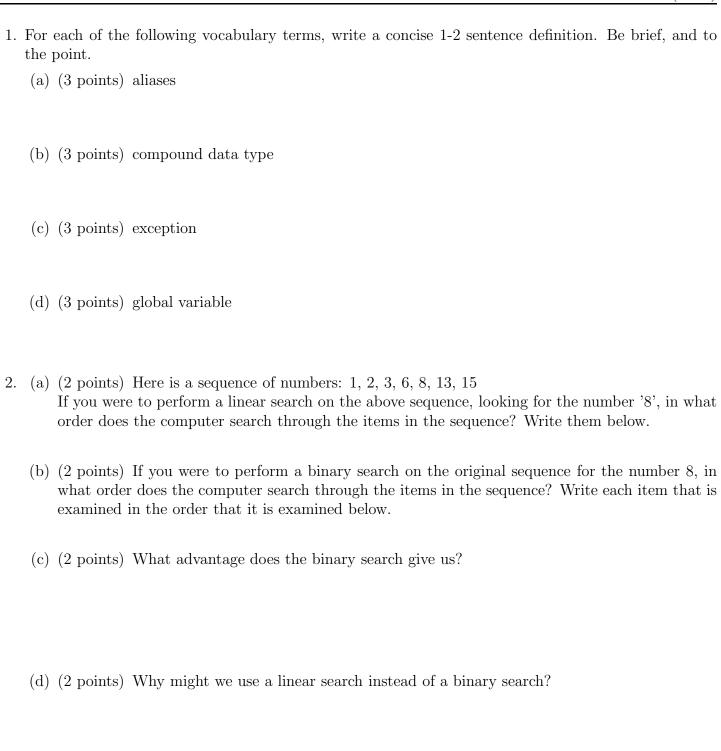
Instructions:

- Please write clearly. What I cannot read, I will not grade.
- $\bullet\,$ Show all your work in detail. I give partial credit.
- This exam has 6 pages including the title page. Please check to make sure all pages are included.
- This exam is closed book, closed notes, no calculators.
- Don't get bogged down on any one question. You will have 50 minutes to complete this exam.

I commit to uphold the ideals of honor and integrity by refusing to betray the trust bestowed upon					
me as a member of the Georgia Tech community.					

Signature:			

Question	Points	Score
1. Vocabulary	12	
2. Searching	8	
3. Map, Filter & Reduce	6	
4. Mystery Code	4	
5. CountBright	8	
6. BigNumbersOnly	12	
Total:	50	



Code Understanding

3. (6 points) After the following code runs, what would be the contents of varB, varC, and varD?

4. (4 points) Examine the following code:

```
def mystery( aParameter):
try:
    aParameter = int(aParameter)
    result = aParameter ** 2
except:
    result = None
    print "Sorry, aParameter is invalid!"
return result
```

- a) What does this mystery function try to do?
- b) Briefly explain why the try/except block is needed:
- c) Give a sample function call to the mystery function which would return None: >>>
- d) Give a sample function call to the mystery function with a valid input that does not trigger the try/catch. Indicate what the expected return value is.

>>>

Code Writing Questions

5. (8 points) Write a function named countBright that accepts a picture as a parameter. It should return the number of pixels in the picture where the pixel's Red, Green, and Blue values sum to 500 or more. For example, if a pixel has (200,100,200) for its color values, it should be counted because (200+100+200) is 500. A pixel with values of (0,255,0) should NOT be counted, because (0 + 255 + 0) is less than 500.

Some functions that might be helpful for this question:

- getPixels(picture)
- getPixel(picture, x, y)
- getWidth(picture)
- getHeight(picture)
- getRed(pixel)
- setRed(pixel, value)

6. (12 points) Write a function named bigNumbersOnly that accepts the name of a file to open as a string parameter. The function should open the file, which will be formatted as follows (one number per line):

54

4.0

23.3

765.2

54

876.8

34

238

45

50

Your function must read in the file and return a *list* of all the numbers greater than 50 (numbers should be stored as floats). Remember to close your file after you are finished reading it. If you find duplicate numbers greater than 50, DO NOT include duplicates in the list!

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