Exam 1

Do not open this exam until you are told. Read these instructions:

1. This is a closed book exam. No calculators, notes, or other aids are allowed. If you have a question during the exam, please come to the front of the class.
2. You must turn in your exam immediately when time is called at the end.
3. Four problems, which add up to 37 points total. 60 minutes. Each question’s point value is indicated.
4. In order to be eligible for as much partial credit as possible, show all of your work for each problem, write legibly, and clearly indicate your answers. Credit cannot be given for illegible answers.

7. Fill in the following:

   NAME:

   G#:

   Lab section number: _________________
scratch
A. Trace through the following code using the scratch space below, and then write your answer in the box on the right-hand side. Then, TRANSFER YOUR ANSWER to the scantron sheet line-by-line. (13 points)

```python
small = [1, 2]
number = 7
large = [small, number, 1, 11]

ctr = 0
while ctr < len(large):
    if ctr > 0:
        if number > 5:
            print "cat"
            large[ctr] = str(large[ctr]) + "7"
        if number > 10:
            print "dog"
        else:
            print "bird"
    else:
        large[0][1] = 8
    ctr = ctr + 1

print ctr
number = 3
ctr = 0
while ctr < len(small):
    print small[ctr]
    ctr = ctr + 1

ctr = 0
while ctr < len(large):
    print large[ctr]
    ctr = ctr + 1
```

WILL NOT BE GRADED! COPY TO SCANTRON!

A1_________________________
A2_________________________
A3_________________________
A4_________________________
A5_________________________
A6_________________________
A7_________________________
A8_________________________
A9_________________________
A10_______________________
A11_______________________
A12_______________________
A13_______________________
1. Output for line A1:
   a. cat  b. dog  c. bird  d. error
2. Output for line A2:
   a. cat  b. dog  c. bird  d. error
3. Output for line A3:
   a. cat  b. dog  c. bird  d. error
4. Output for line A4:
   a. cat  b. dog  c. bird  d. error
5. Output for line A5:
   a. cat  b. dog  c. bird  d. 4  e. 1
6. Output for line A6:
   a. cat  b. dog  c. bird  d. 4  e. 1
7. Output for line A7:
   a. 4    b. 1   c. 2    d. 8    e. 7
8. Output for line A8:
   a. 4    b. 1   c. 2    d. 8    e. 7
9. Output for line A9:
   a. 4    b. 1   c. 2    d. 8    e. 7
10. Output for line A10:
    a. [1,2] b. [1,7] c. [1,8] d. [1,3]
11. Output for line A11:
    a. 7    b. 8   c. 14   d. 3    e. 77
12. Output for line A12:
    a. 7    b. 8   c. 17   d. 11   e. 117
13. Output for line A13:
    a. 7    b. 8   c. 17   d. 11   e. 117
What are the values of the following expressions in Python?

14. 5 // 2
   a. 2  b. 2.0  c. 2.5  d. error

15. 5 / 2.0
   a. 2  b. 2.0  c. 2.5  d. error

16. 4.0 + 5
   a. 9  b. 9.0  c. 4.05  d. error

17. “4.0” + 5
   a. “9”  b. “9.0”  c. 9  d. 9.0  e. error

18. int(5.5)
   a. 5  b. 5.0  c. 5.5  d. error

19. False or (True and 1 == 1)
   a. True  b. False  c. error

20. list = [1, 3, 4, 2, 6]
    list[1:3]

21. list = [1, 3, 4, 2, 6]
    list[:-1]

22. list = [1, 3, 4, 2, 6]
    4 in list
   a. True  b. False  c. 4  d. [1,3,4,2,6]  e. error
23. Ask the user to enter an arbitrary list of integers. Write code (or pseudo code) that removes every odd number from this list and returns the result.

For example, the list

\[ 2, 3, 4, 5, 6, 7, 8, 9, 1, 10 \]

would yield

\[ 2, 4, 6, 8, 10 \]

You may not use any built-in functions/methods besides `len()` and `.append()` – you may NOT use `.remove()`. (15 points)

Extra credit: Name one thing you find useful this semester, and one thing you don’t find useful.