

1. Given a line of text (i.e., a string terminated by a '\n' character), write a function that returns the list of words contained within that line. For example,

```
#           1           2           3           4
#           01234567890123456789012345678901234567890123456
line = ' 2the, Line-of-text444a    ONe of ++four fox\n'
print findWords(line)
```

should print: ['the', 'Line', 'of', 'text', 'a', 'ONe', 'of', 'four', 'fox']

a) What is a good definition of a word?

b) If we knew the position in `line` where the word started and the position of first character after the word, how could we extract the string for the word?

c) Lets develop an algorithm for the function `findWords`.

2. Turtle Graphics is discussed in sections 7.1 and 7.2 of the textbook and is NOT a standard module of Python.

The objectives for looking at the Turtle graphics module are:

- Gain experience using object-based programming using existing classes, objects, and methods (p. 250)
- Understand simple graphics operations to draw 2D shapes

The following program (Figure 7.4) causes the turtle to move 30 times for a distance of 20 pixels each in a random direction with each move drawn in a random color.

```
"""
File: randomwalk_randomcolors.py

A turtle takes a random walk drawing a random color.
"""

from turtlegraphics import Turtle
import random

def randomWalk(turtle, turns, distance = 20):
    turtle.setWidth(1)
    for x in xrange(turns):
        turtle.turn(random.randint(0, 360))
        turtle.setColor(random.randint(0,255), # red component
                       random.randint(0,255), # blue component
                       random.randint(0,255)) # green component
        turtle.move(distance)

randomWalk(Turtle(), 30)
temp = raw_input("Hit the <Enter> key to quit")
```

Define the following functions:

- drawLine - this function expects a Turtle object and four integers as arguments. The integers represent the end-points of a line segment. The function should draw a black line segment of width 1 with the turtle and do no other drawing.

Write a main function that uses drawLine such that:

- creates a Turtle with a window size of 400 by 400.
- draws a line from (150, 150) to (-200, -200).