1) (1 pt) The data file `trap.in` contains a table of values for some unknown function. Write a program that will count the number of lines in the data file.

2) (6 pts) You will need the answer from Problem 1 to do this problem. Write a program that will use one loop to read in the data values in `trap.in` into two array variables. This loop should look something like:

```
DO i = 1,.....
   READ(*,*) x(i),y(i)
ENDDO
```

   In a second loop, compute the area under the function using the trapezoidal rule. Could you use Simpson's rule for this problem? Why or why not?

3) (3 pts) Write a program that will swap two variables. For example, suppose you declare a and b to be integers and set $a = 5$ and $b = -9$. When your program terminates, the value of a should be -9 and the value of b should be 5. Your program should work for any values of a and b.