CS 32, Fall 2012
Hw2: 50 total points

Print this form, staple loose pages together, and write your answers on it.

Accepted: script by `turnin` before your lab section on Thursday, October 18,
         plus this paper at the beginning of your lab section on October 18.
No email submission allowed.

Name (1 pt): _____

Umail (1 pt): _____@umail.ucsb.edu

Lab Section (1 pt) Circle one: 5:00   6:00   7:00

Add the following features to the listwritable script from Lab02. For each one,
either place a check mark on the line if you (and your partner) successfuly
incorporated that feature, or write a brief explanation in the space instead.

   1. (10 pts.) Add a usage direction to the user. Display it if the user does
not enter any command line arguments. Also exit, signaling 1 (error value)
to the operating system (`exit 1`). Results should match the following:

        bash-4.2$ ./listwritable
        usage: ./listwritable DirectoryName
        bash-4.2$ echo $?
        1

By the way, use $0 to print the script name properly in the usage message.

   #1 done: _____
            (check, or say why not)

   2. (24 pts. - 8 each) Add the following error checks/messages as instructed.

      a. Verify the file exists. Match this error message and exit code:

        bash-4.2$ ./listwritable nonsense
        there is no directory named nonsense
        bash-4.2$ echo $?
        2

      #2a. done: _____

      b. Verify the file is readable. Match this message and exit code:

        bash-4.2$ ./listwritable /root
        you do not have permission to read /root
        bash-4.2$ echo $?
        3

      #2b. done: _____

c. Verify the file is a directory. Match this message and exit code:

```
bash-4.2$ ./listwritable listwritable
listwritable is not a directory
bash-4.2$ echo $?
4
```

#2c. done: _____

3. (10 pts.) Enhance the information printed when a run is successful,
as in the following sample runs:

```
bash-4.2$ whoami
cs32
bash-4.2$ ./listwritable ~/labs
items in /cs/class/cs32/labs that are writable by cs32:
   lab01: directory
   lab02: directory
bash-4.2$ ./listwritable /
items in / that are writable by cs32:
   tmp: sticky directory
bash-4.2$ echo $?
0
```

Clarification/hints for problem 3:
(a) Precede the list with a message that includes the full name of the
    directory, not the argument string, and includes the $USER string.
(b) Use the file command (`file $1`) to print the writable file names along
    with their types - indented 3 spaces from the left in the list of files.
(c) The default exit code is 0.

#3 done: _____

4. (3 pts.) Research, then answer briefly: What is a "sticky" directory?

End of Hw2

Turn-in instructions:

A. Use the turnin program to submit the listwritable script as follows:

        turnin hw2@cs32 listwritable

   If you worked with a partner, then just turn in one copy for both of you,
   and enter your partner's name on the following line:

   _____

B. Each student must turn in this completed paper at your next lab.