Lab Exercise #15 -- The UNIX File System

The "stat" family of system calls ("stat", "fstat" and "lstat") are used to
access information about a file or directory.

While using a Solaris system, review the following manual pages, then answer
the questions below:

    man -s 2 stat
    man -s 3head stat

1. What are the three time stamps associated with a file or directory?

2. How are those time stamps measured (unit of measure and reference point)?

3. What is the purpose of the "st_mode" field in the status buffer?

4. What is the purpose of the "st_uid" field in the status buffer?

5. What is the purpose of the "st_blocks" field in the status buffer?

6. Which field in the status buffer gives the size of the file? What is the
unit of measurement for that size?

7. Develop a program which uses "stat" to display the following information about a specified file or directory on a Solaris system:

    -- file or directory name
    -- type (file, directory, or symbolic link)
    -- owner's uid
    -- size (in bytes and blocks)
    -- access permissions for the owner
    -- access permissions for the owner's group
    -- access permissions for the world
    -- time of last access
    -- time of last data modification
    -- time of last status change

The program should accept a list of one or more file names as command-line arguments.

The file named "lab15.start.c" contains a rudimentary version of the program.