

Test Case #1

Sample Input File

testcase1.txt
friendadd root viewby root friendadd alice friendadd bob listadd students friendlist alice students friendlist bob students friendadd tom logout viewby alice postpicture file1.txt writecomments file1.txt Text from Alice in file1 postpicture file2.txt writecomments file2.txt Text from Alice in file2 chmod file2.txt rw rw r- chlst file2.txt students logout viewby tom readcomments file1.txt readcomments file2.txt writecomments file2.txt Text from Tom in file2 viewby bob logout viewby bob writecomments file2.txt Text from Bob in file2 readcomments file2.txt logout viewby root chown file1.txt tom logout viewby tom writecomments file1.txt Text from Tom in file1 readcomments file1.txt logout end

Line-by-Line Expected Program Execution

>friendadd root

- Creates the profile owner called root by adding entry to *friends.txt* file containing friend name.
- Display message to terminal: "Friend root added"
- Log message to *audit.txt* file: "Friend root added"

>viewby root

- Locates entry for friend root in *friends.txt* file and
- Friend root views the profile.
- Display message to terminal: "User root views the profile"
- Log message to *audit.txt* file: "User root views the profile"

>friendadd alice

- Creates/adds friend alice by adding entry to *friendss.txt* file containing friend name
- Display message to terminal: "Friend alice added"
- Log message to *audit.txt* file: "Friend alice added"

>friendadd bob

- Creates/Adds friend bob by adding entry to *friends.txt file* containing friend name
- Display message to terminal: "Friend bob added"
- Log message to *audit.txt* file: "Friend bob added"

>listadd students

- Creates list students without any friends
- Display message to terminal: "List students created"
- Log message to *audit.txt* file: "List students created"

>friendlist alice students

- Adds friend alice to list students
- Display message to terminal: "Friend alice added to list students"
- Log message to *audit.txt* file: "Friend alice added to list students"

>friendlist bob students

- Adds friend bob to list students
- Display message to terminal: "Friend bob added to list students"
- Log message to *audit.txt* file: "Friend bob added to list students"

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>friendadd tom
    • Creates/adds friend tom by adding entry to friends.txt file containing friend name
    • Display message to terminal: "Friend tom added"
    • Log message to audit.txt file: "Friend tom added"

>logout
    • Friend root no longer views the profile
    • Display message to terminal: "Friend root logged out"
    • Log message to audit.txt file: "Friend root logged out"

>viewby alice
    • Locates entry for friend alice in friends.txt file
    • Friend alice views the profile.
    • Display message to terminal: "Friend alice views the profile"
    • Log message to audit.txt file: "Friend alice views the profile"

>postpicture file1.txt
    • Creates file named file1.txt with default permissions and alice as the owner. The first line is file1
    • Display message to terminal: "Picture file1.txt with owner alice and default permissions has been posted"
    • Log message to audit.txt file: "Picture file1.txt with owner alice and default permissions created"

>writecomments file1.txt Text from Alice in file1
    • Appends supplied text in a new line to file1.txt
    • Display message to terminal: "Friend alice wrote a comment file1.txt: Text from Alice in file1"
    • Log message to audit.txt file: "User alice wrote a comment to file1.txt: Text from Alice in file1"

>postpicture file2.txt
    • Creates file named file2.txt with default permissions and alice as the owner. The first line of the file is file1
    • Display message to terminal: "Picture file2.txt with owner alice and default permissions created"
    • Log message to audit.txt file: "Picture file2.txt with owner alice and default permissions created"
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>writecomments file2.txt Text from Alice in file2
  • Appends supplied text in a new line to file2.txt
  • Display message to terminal: "Friend alice wrote a comment to
    file2.txt: Text from Alice in file2"
  • Log message to audit.txt file: "Friend alice wrote a comment to
    file2.txt: Text from Alice in file2"

>chmod file2.txt rw rw r-
  • Sets file permissions for file2.txt to allow read and write for owner and list, but only read
    for public
  • Display message to terminal: "Permissions for file2.txt set to rw rw
    r- by alice "
  • Log message to audit.txt file: "Permissions for file2.txt set to rw rw
    r- by alice"

>chlst file2.txt students
  • Sets list for file2.txt to students
  • Display message to terminal: "List for file2.txt set to students by
    alice"
  • Log message to audit.txt file: "List for file2.txt set to students by
    alice"

>logout
  • Friend alice no longer views the profile
  • Display message to terminal: "Friend alice logged out"
  • Log message to audit.txt file: "Friend alice logged out"

>viewby tom
  • Locates entry for friend tom in friends.txt file
  • Friend tom views the profile
  • Display message to terminal: "Friend tom views the profile"
  • Log message to audit.txt file: "User tom views the profile"

>readcomments file1.txt
  • Display message to terminal: "Friend tom denied read access to
    file1.txt"
  • Log message to audit.txt file: "Friend tom denied read access to
    file1.txt"

>readcomments file2.txt
  • Friend tom successfully reads file2.txt
  • Display message to terminal:
    "Friend tom reads file2.txt as:
    Text from Alice in file2"

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- Log message to *audit.txt* file:
"Friend tom reads file2.txt as:
Text from Alice in file2"

>writecomments file2.txt Text from Tom in file2

- Display message to terminal: "Friend tom denied write access to file2.txt"
- Log message to *audit.txt* file: "Friend tom denied write access to file2.txt"

>viewby bob

- Display message to terminal: "View failed: concurrent friends not supported"
- Log message to *audit.txt* file: "View failed: concurrent friends not supported"

>logout

- Friend tom no longer views the profile
- Display message to terminal: "Friend tom logged out"
- Log message to *audit.txt* file: "Friend tom logged out"

>viewby bob

- Locates entry for friend bob in *friends.txt* file
- Friend bob views the profile
- Display message to terminal: "Friend bob views the profile"
- Log message to *audit.txt* file: "Friend bob views the profile"

>writecomments file2.txt Text from Bob in file2

- Appends supplied text as new line to *file2.txt*
- Display message to terminal: "Friend bob wrote to file2.txt: Text from Bob in file2"
- Log message to *audit.txt* file: "Friend bob wrote to file2.txt: Text from Bob in file2"

>readcomments file2.txt

- Friend bob successfully reads comments *file2.txt*
- Display message to terminal:
"Friend bob reads file2.txt as:
Text from Alice in file2
Text from Bob in file2"
- Log message to *audit.txt* file:
"Friend bob reads file2.txt as:

Text from Alice in file2
Text from Bob in file2"

>logout

- Friend bob no longer views the profile
- Display message to terminal: "Friend bob logged out"
- Log message to *audit.txt* file: "Friend bob logged out"

>viewby root

- Locates entry for friend root in *friends.txt* file
- Friend root views the profile
- Display message to terminal: "Friend root views the profile"
- Log message to *audit.txt* file: "Friend root views the profile"

>chown file1.txt tom

- Changes owner of *file.txt* to user tom
- Display message to terminal: "Owner of file1.txt changed to tom"
- Log message to *audit.txt* file: "Owner of file1.txt changed to tom"

>logout

- Friend root no longer views the profile
- Display message to terminal: "Friend root logged out"
- Log message to *audit.txt* file: "Friend root logged out"

>login tom

- Locates entry for friend tom in *friends.txt* file
- Friend tom views the profile
- Display message to terminal: "Friend tom views the profile"
- Log message to *audit.txt* file: "Friend tom views the profile"

>writecomments file1.txt Text from Tom in file1

- Appends supplied text as new line to *file1.txt*
- Display message to terminal: "Friend tom wrote to file1.txt: Text from Tom in file1"
- Log message to *audit.txt* file: "Friend tom wrote to file1.txt: Text from Tom in file1"

>readcomments file1.txt

- Friend tom successfully reads *file1.txt*
- Display message to terminal:
"Friend tom reads file1.txt as:
Text from Alice in file1
Text from Tom in file1"

- Log message to *audit.txt* file:

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"Friend tom reads file1.txt as:  
Text from Alice in file1  
Text from Tom in file1"
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>logout

- Friend tom no longer views the profile
- Display message to terminal: "Friend tom logged out"
- Log message to *audit.txt* file: "Friend tom logged out"

>end

- Program writes out the *list.txt* and *pictures.txt* files, performs necessary clean-up, and terminates

Final Content of User Created Files

file1.txt
Text from Alice in file1
Text from Tom in file1

file2.txt
Text from Alice in file2
Text from Bob in file2

lists.txt Content

lists.txt
students: alice bob

pictures.txt Content

pictures.txt
file1.txt: tom nil rw -- --
file2.txt: alice students rw rw r-

friends.txt Content

friends.txt
root
alice
bob
tom

Audit Log Content

audit.txt

```
Friend root added
Friend root views the profile
Friend alice added
Friend bob added
List students added
Friend alice added to list students
Friend bob added to list students
Friend tom added
Friend root logged out
Friend alice views the profile
Picture file1.txt with owner alice and default permissions
created
Friend alice wrote to file1.txt: Text from Alice in file1
Picture file2.txt with owner alice and default permissions
created
Friend alice wrote to file2.txt: Text from Alice in file2
Permissions for file2.txt set to rw rw r- by alice
List for file2.txt set to students by alice
Friend alice logged out
Friend tom views the profile
Friend tom denied read access to file1.txt
Friend tom reads file2.txt as:
Text from Alice in file2
Friend tom denied write access to file2.txt
Login failed: simultaneous login not permitted
Friend tom logged out
Friend bob views the profile
Friend bob wrote to file2.txt: Text from Bob in file2
Friend bob reads file2.txt as:
Text from Alice in file2
Text from Bob in file2
Friend bob logged out
Friend root views the profile
Owner of file1.txt changed to tom
Friend root logged out
Friend tom views the profile
Friend tom wrote to file1.txt: Text from Tom in file1
Friend tom reads file1.txt as:
Text from Alice in file1
Text from Tom in file1
Friend tom logged out
```