OS PROJECT 2 - V6 FILE SYSTEM PART 2 (GROUP 5)

Command: initfs n1 n2
n1 - number of blocks; n2 - number of inodes
To initialize v6 file system


```
{csgrads1:~/v6fs2} ./a.out
V6 File System:
>> initfs v6fs 40 20
FS Initialization!
Initializing file system...

File system initialized successfully
>>
```

Command: cpin external_filename internal_filename
eg: cpin smallfile.txt test
External filename: smallfile.txt; Internal filename: test
To copy an external file to v6 file system (internal file)


```
File system initialized successfully
>> cpin smallfile.txt sf
File sf not found!
File not found! Creating sf ...
File smallfile.txt exists. Trying to open...
smallfile.txt file size is 5170
Copy from file size is 5170

External source file size is 5170
Copying file successful
>>
```

Command: cpout internal_filename external_filename eg: cpout
test output.txt where test is internal filename
To copy a file from v6 file system (internal file) to an external file


```
External source file size is 5170
Copying file successful
>> cpout sf output.txt
Internal file sf size is 5170
File copied successfully
>>
```

Contents of output.txt (external file) after performing cpout operation.


```
{csgrads1:~/v6fs2} cat output.txt
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer a erat sem. Donec ultricies leo magna, non gravida purus efficitur nec. Ut ult
rices eget odio non posuere. Morbi sit amet sodales diam. Donec dignissim dapibus neque, et pulvinar purus condimentum non. Aenean ac arcu urna
. Cras tempor mauris non tortor suscipit, ut lobortis orci fringilla. In hac habitasse platea dictumst.

Phasellus euismod velit in metus fringilla mattis. Duis varius magna velit, nec porttitor nisl dictum sagittis. Cras gravida dolor et elementum
 commodo. Donec ac efficitur augue. Aliquam et aliquam tellus, in malesuada elit. Aliquam accumsan, purus id tempus cursus, lectus felis ullamc
orper enim, accumsan laoreet est ex id ligula. Ut pharetra ante diam, sit amet rutrum urna molestie nec. Curabitur euismod nunc leo, ac rutrum
diam rhoncus convallis. Phasellus ullamcorper, sem in egestas luctus, nisl mauris blandit ex, non hendrerit nibh augue eu felis. Etiam dignissi
m efficitur purus, in interdum sapien posuere eu. Proin lobortis placerat blandit. Sed consequat dui vitae sem sodales, in iaculis massa molest
ie. Maecenas nec venenatis nisl. Proin ut sagittis erat.

Etiam ut sapien volutpat, feugiat sem vel, imperdiet tellus. Vivamus iaculis nunc ipsum, a ornare ipsum egestas in. Pellentesque eget neque por
ttitor, finibus dui eu, posuere urna. Fusce lacinia nunc velit, ac aliquet urna semper vitae. Nulla facilisi. Duis pulvinar orci ut quam ornare
 congue. Donec at gravida risus. Maecenas a tortor tellus. Aliquam varius ipsum tellus, et bibendum est varius a. Suspendisse rhoncus, sem sed
tempor finibus, metus erat gravida eros, at scelerisque orci odio quis nisi.

Mauris ac imperdiet neque. Integer vel fermentum lectus. Curabitur vitae pharetra justo, vel interdum dolor. Morbi convallis nibh ac elit trist
ique, a imperdiet augue accumsan. Interdum et malesuada fames ac ante ipsum primis in faucibus. Donec non nunc ac mi elementum hendrerit et sit
 amet lectus. Proin bibendum sapien consequat, viverra tellus sit amet, laoreet metus. Aliquam molestie tincidunt elit eu volutpat. Nullam temp
us purus est, in faucibus augue tincidunt quis. Nunc et augue a urna luctus porttitor.

Sed ut rhoncus enim, quis dapibus sem. Proin eget gravida risus. In sit amet hendrerit ipsum. Pellentesque a ultrices felis, eu vestibulum magn
a. Quisque justo arcu, varius consectetur imperdiet et, commodo non erat. Donec eu enim molestie, lobortis libero vitae, ultricies nunc. Nulla
nec est libero, Aenean vitae lacinia sem, ac commodo diam. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed neque nibh, condimentum
 eget sagittis ac, luctus vitae nisl. Sed quis turpis a erat rhoncus auctor. Nullam nibh purus, condimentum a metus vel, mattis finibus metus.

Morbi ultricies risus nisi, sollicitudin viverra ligula porta in. Aliquam vel gravida erat. Maecenas fringilla eu elit id rhoncus. Donec non ma
ssa metus. Nam in leo at nisl tempus feugiat a eget magna. Donec ante nulla, mollis at laoreet id, rutrum non augue. Nam eget ipsum tristique n
unc rhoncus tincidunt. Nam sit amet volutpat mi. Curabitur eu faucibus nisi, et faucibus ex. Phasellus laoreet risus et massa venenatis placera
t. Donec ornare sollicitudin quam ut fringilla. Sed ut pulvinar justo. Nulla ultrices, diam sed faucibus sagittis, lacus ante tristique odio, n
on pulvinar sem lacus eget orci.

Nam et consectetur nulla. Pellentesque eu vulputate dolor, sit amet vestibulum est. Nulla et turpis dictum urna tempus tristique. Donec non fel
is non nisl ullamcorper blandit dictum nec sem. Cras mattis sem lorem, at tristique lectus mollis vel. Vestibulum vitae tincidunt nisi. Fusce e
t nunc id justo tincidunt malesuada. Mauris justo augue, rutrum sed nunc ut, finibus commodo lectus. Nam at nisi ac libero commodo rhoncus. Aen
ean quis massa lectus. Nam aliquam et massa non ultrices. Suspendisse vitae lacus turpis. Sed efficitur sapien diam, vel rutrum ante auctor sit
```

Command: mkdir directory_name
eg: mkdir user313 Directory name: user313
To create a new directory

```
>> mkdir user313
Size before adding a new dir is 41984
File user313 not found!
Size of root inode after adding a new record of 32 bytes (dir): 128
Size after adding a new dir is 41984
Created new directory successfully
>>
```

Contents of root directory after adding a new directory to v6 file system

```
>> rootdir
Node number: 1  Filename: .
Node number: 1  Filename: ..
Node number: 2  Filename: sf
Node number: 3  Filename: user313
Node number: 0  Filename:
Node number: 0  Filename:
Node number: 0  Filename:
Node number: 0  Filename:
Node number: 0  Filename:
Node number: 0  Filename:
Node number: 0  Filename:
Node number: 0  Filename:
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Node number: 0  Filename:
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Node number: 0  Filename:
Node number: 0  Filename:
>>
```

Command: rm file_name
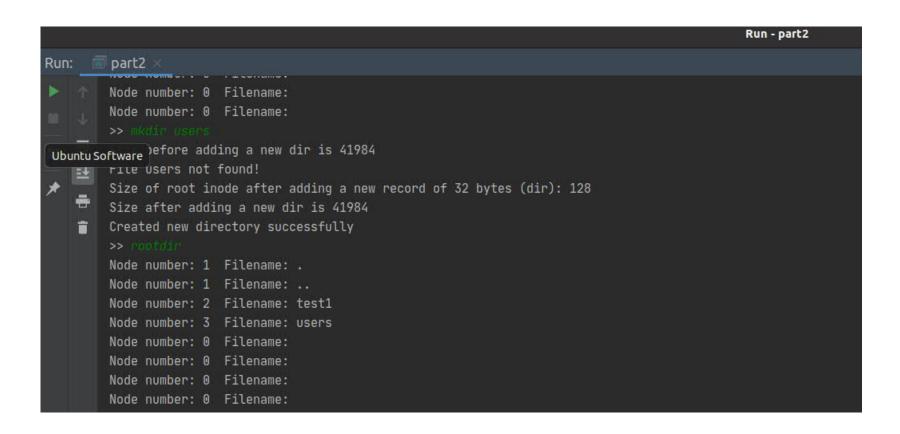eg: rm sf Filename: sf
To remove an internal file from v6 file system

```
>> rm sf
Inside rm function
Inside remove file from dir function
Removed file successfully
>>
```

Contents of root directory after removing file (sf) from v6 file system

```
>> rootdir
Node number: 1  Filename: .
Node number: 1  Filename: ..
Node number: 0  Filename:
Node number: 3  Filename: user313
Node number: 0  Filename:
Node number: 0  Filename:
Node number: 0  Filename:
Node number: 0  Filename:
Node number: 0  Filename:
Node number: 0  Filename:
Node number: 0  Filename:
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>>
```

Command: cd path
eg: cd .
    cd ..
    cd directory_name
Directory name: user313   (Valid path input are ., .., directory_name

```
>> cd .
>> cd ..
The present directory inode number is 1
The current path is ~V6FS@root
>>
```

```
>> cd user313
The present directory inode number is 3
The current path is ~V6FS@root/user313
>>
```

Command: pwd
eg: pwd
Prints the current working directory

```
>> pwd
~V6FS@root
>>
```

Command: q /exit
eg: q or exit
To exit the v6 file system

```
>> q
Exiting V6 File System
{csgrads1:~/v6fs2}
```

Command: openfs
eg: openfs v6fs - where filename is v6fs
To open a v6 file system

```
>> openfs v6fs

File system v6fs exists. Trying to open...
File opened
The file size is 41984
>>
```

un: part2 ×

```
"/home/sidmedar313/CLionProjects/OS Project Part 2 (copy)/cmake-build-debug/part2"
V6 File System:
>> initfs v6fs2 40 20
FS Initialization!
Initializing file system...

File system initialized successfully
>> cpin smallfile.txt test1
File test1 not found!
File not found! Creating test1 ...
File smallfile.txt exists. Trying to open...
smallfile.txt file size is 5170
Copy from file size is 5170

External source file size is 5170
Copying file successful
>> cpout test1 output.txt
Internal file test1 size is 5170
File copied successfully
>> rootdir
Node number: 1  Filename: .
Node number: 1  Filename: ..
Node number: 2  Filename: test1
Node number: 0  Filename:
Node number: 0  Filename:
Node number: 0  Filename:
Node number: 0  Filename:
Node number: 0  Filename:
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Node number: 0  Filename:
Node number: 0  Filename:
```

Terminal

Run: part2 ×

```
Node number: 0  Filename:
Node number: 0  Filename:
>> mkdir users
        before adding a new dir is 41984
File users not found!
Size of root inode after adding a new record of 32 bytes (dir): 128
Size after adding a new dir is 41984
Created new directory successfully
>> rootdir
Node number: 1  Filename: .
Node number: 1  Filename: ..
Node number: 2  Filename: test1
Node number: 3  Filename: users
Node number: 0  Filename:
Node number: 0  Filename:
Node number: 0  Filename:
Node number: 0  Filename:
```

Ubuntu Software

```
Node number: 0  Filename:
Node number: 0  Filename:
Node number: 0  Filename:
Node number: 0  Filename:
Node number: 0  Filename:
>> cd users
The present directory inode number is 3
The current path is ~V6FS@root/users
>> cd ..
The present directory inode number is 1
The current path is ~V6FS@root
>> q
Exiting V6 File System

Process finished with exit code 0
```