Homework 5

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Question 1

Problem-solution approach

Here a simple file system is created. Inside of the tree there is a node that holds the reference(LinkedList reference) to its files and directories(2 references). Inside this file node there is also a boolean value that indicates if the file either a directory or a file. Structure of the class is very simple. It has one root directory. This directory is constructed at the beginning and everything being added is added to this directory. When adding a new file/directory their names need to be separated by '/' character. In addition, files/directories with the same name in the same directory is not allowed of course. During removal, if the folder is removed its whole content is also removed. Search method provided will show each file/directory containing the sequence of characters passed as a parameter. During removal, if the aimed directory is correctly reached and the file/directory to be deleted is incorrect, user will have a chance to delete it again. Even private methods will be included in the javadoc.

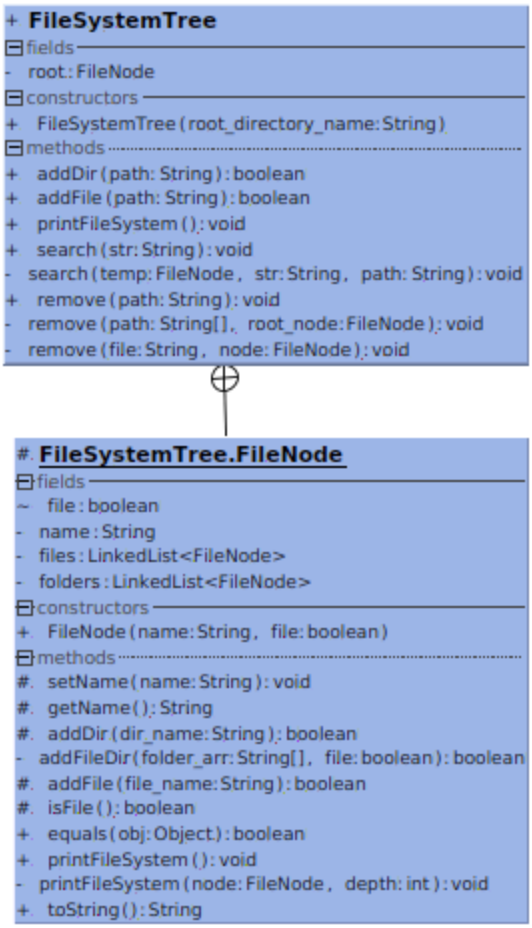
Tests cases

Test cases are run inside the virtual machine provided. Its actual results can be confirmed from the attached screenshots.

Test Scenario	Expected Results	Actual Results
Adding directories to the system: 'dir1', 'dir1/dir2', 'dir1/dir2/dir23 And two files: 'file.txt', 'dir1/dir2/file2.txt'	Should be added and after printed as a proof	As expected
Trying to remove a non-existent file/directory in directory 'root/dir1/dir2'	Should not be remove and the user should be asked to remove some other file from that directory	As expected
follow-up on previous test User enters: dir23 which Is a directory inside the path	Now it should be found and removed from the system	As expected

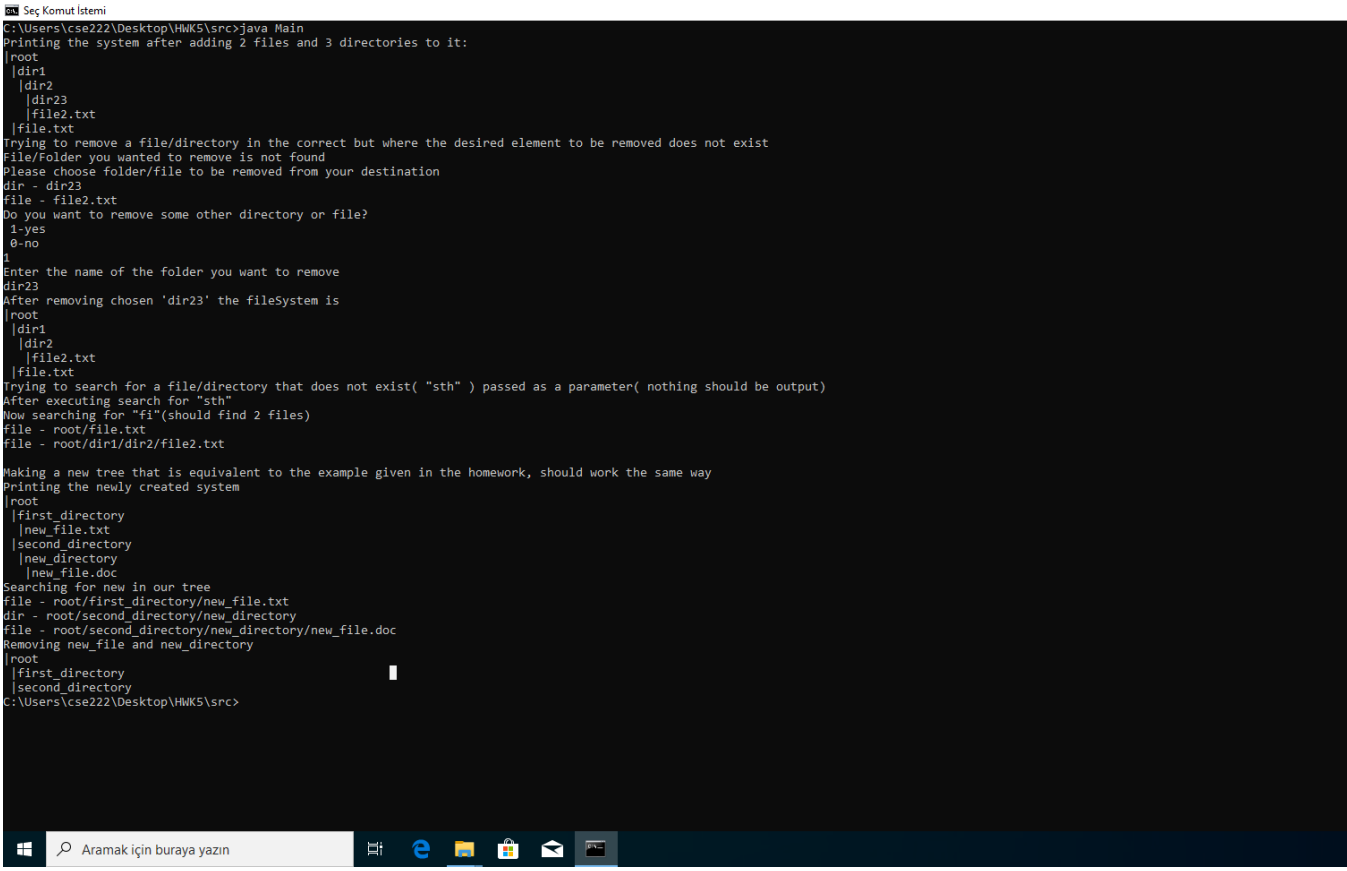
Searching for ‘sth’ in the file system	File system does not contain any file with such a substring so shouldn’t output anything	As expected
Searching for ‘fi’ in the file system	'fi’ should be found since there are 2 files that contain such substring	As expected
Making a new file system(an example from the homework’s pdf)	All elements should be added: ‘first_directory’, ‘second_directory’, ‘second_directory/new_directory’ and files ‘first_directory/new_file.txt’ and ‘second_directory/new_file.doc’	As expected
Printing the newly created system	System should be correctly printed	As expected
Searching for ‘new’ in the system	New_directory New_file.txt and New_file.doc Should be printed on the screen	As expected
Removing new_file and new_directory	There two element should be removed from the system	As expected

Class diagram of FileSystemTree



Running command and results

Output of the code executed in the virtual machine is provided in here


Seç Komut İstemi
C:\Users\cse222\Desktop\HW5\src>java Main
Printing the system after adding 2 files and 3 directories to it:
|root
 |dir1
  |dir2
   |dir23
   |file2.txt
 |file.txt
Trying to remove a file/directory in the correct but where the desired element to be removed does not exist
File/Folder you wanted to remove is not found
Please choose folder/file to be removed from your destination
dir - dir23
file - file2.txt
Do you want to remove some other directory or file?
 1-yes
 0-no
1
Enter the name of the folder you want to remove
dir23
After removing chosen 'dir23' the fileSystem is
|root
 |dir1
  |dir2
   |file2.txt
 |file.txt
Trying to search for a file/directory that does not exist("sth") passed as a parameter(nothing should be output)
After executing search for "sth"
Now searching for "fi"(should find 2 files)
file - root/file.txt
file - root/dir1/dir2/file2.txt
Making a new tree that is equivalent to the example given in the homework, should work the same way
Printing the newly created system
|root
 |first_directory
  |new_file.txt
 |second_directory
  |new_directory
   |new_file.doc
Searching for new in our tree
file - root/first_directory/new_file.txt
dir - root/second_directory/new_directory
file - root/second_directory/new_directory/new_file.doc
Removing new_file and new_directory
|root
 |first_directory
 |second_directory
C:\Users\cse222\Desktop\HW5\src>
Aramak için buraya yazın