# Gebze Technical University Computer Engineering

**CSE222-2020-SPRING** 

Homework-5\_Part1 Report

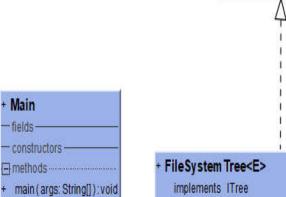
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# 1)Problem Solutions Approach

First, the tree structure is created and the root directory is named. The given string data is divided into pieces and added to the required places. We make these installations as parent and child in the building in accordance with the tree structure. After the tree structure is formed, other functional processes are carried out in accordance with this tree structure.

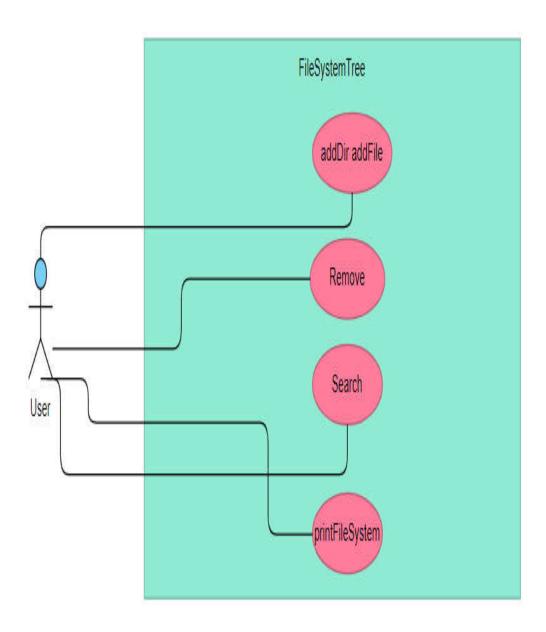
## 2) Class Diagram

+ ITree<E>
— fields ——
— methods ——



+ addDir(Path: String):void + addFile(Path: String):void + remove (Path: String):void + search (Path: String): void printFileSystem():void implements ITree -fields − root:FileNode<E> -constructors + FileSystemTree (name: E) methods -----+ find(data:E):FileNode<E> printTree (node: FileNode<E>, appender: String): void getNumberOfNodes():int GetNumberOfNodes (node: FileNode<E>): int parse (Path: String): String[] addelement (oldadd: String, newadd: String): void + addDir(Path: String):void addFile(Path: String):void + remove (Path: String):void removefnk(nodetemp: FileNode<E>):void search (Path: String): void TraversTree (node: FileNode < E > , appender: String): void searchpr(node: FileNode<E>):void printFileSystem():void

# 3)Use Case Diagram



#### 4)Test Case

#### a)AddDir

Test Case ID	Test Scena rio	Test Steps	Test Data	Expected Result	Actual Result	Pass/F ail
Т1	Call with a valid path	Call the metho d with a valid path	<pre>tree.addDir("root/first_d irectory");</pre>	Directories in the given path are added to the root value	Director y is added	Pass
<b>T2</b>	Call metho d with neste d new direct ory	Call the metho d with neste d direct ory	<pre>tree.addDir("root/second_dir ectory/third_directory");</pre>	The given input is added to the root respectively	Directo ries are added	Pass

#### b)AddFile

Tes t Cas e ID	Test Scen ario	Test Steps	Test Data	Expecte d Result	Actual Result	Pass/ Fail
T 1	Call with a valid path	Call the method with a valid path	<pre>tree.addFile("root/second_dire ctory/new_directory/data.txt") ;</pre>	Add incoming files in order	File attache d	Pass
T 2	Call with a invali d path	Call method with nested new file	<pre>tree.addFile("root/second_d irectory/new_directory/new_ file.txt/second_file.doc");</pre>	Does not allow adding new files under the file	File cannot be added under the file	Pass

### c) Remove

Tes t Cas e ID	Test Scenar io	Test Steps	Test Data	Expected Result	Actual Result	Pass/ Fail
T 1	Call with a valid path	Call the method with a valid path	<pre>tree.remove("root/seco nd_directory");</pre>	Ask the user if the file or directory to be deleted should be deleted, and then delete it	Directory and file deleted	Pass
T 2	Call with a invalid path	Call the method with a invalid path	<pre>tree.remove("root/seco nd_directoryxyy1");</pre>	indicated that there are no files and directories	File or Directory Not Found	Pass

```
tree.remove( Path: "root/second_directory");

tree.remove( Path: "root/second_directoryxyy1");

File or Directory Not Found
-root|
--first_directory
----new_file.doc
```

#### d) Search

Tes t Cas e ID	Test Scenari o	Test Steps	Test Data	Expecte d Result	Actual Result	Pass/Fa il
T 1	Call with a valid value	Call the metho d with a valid value	tree.search("new");	If the files and directori es found are found, their path is shown	File and director y paths are shown	Pass
T 2	Call with a invalid value	Call the metho d with a invalid value	tree.search(" <b>new11111</b> ");	If the not found files and directories are not found, they will not print anything.	Nothing is shown	Pass

```
tree.search( Path: "new");
tree.search( Path: "new11111");

**************
File--->root/first_directory/new_file.doc/
Directory--->root/second_directory/new_directory/
File--->root/second_directory/new_directory/new_file.txt/
```

# e) printFileSystem

Test	Test	Test	Test	Expected	Actual	Pass/Fa
Cas	Scenari	Steps	Data	Result	Result	il
e ID	0					
<b>T1</b>	Call	Call	tree.printFileSystem(	Print all	All	Pass
• -	with a	the	);	directorie	directorie	1 433
	valid	metho		s and	s and	
	value	d with		files on	files are	
		a valid		screen	printed	
		value			on the	
					screen	

```
tree.printFileSystem();
```

```
-root
--first_directory
---new_file.doc
--second_directory
---new_directory
----new_file.txt
```