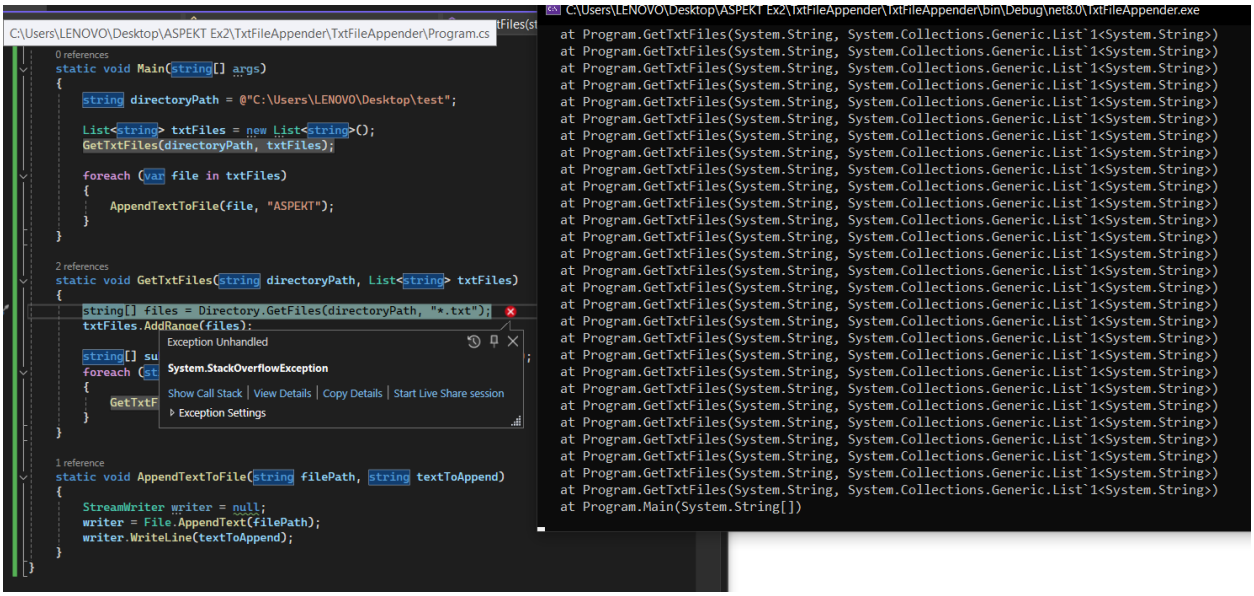
ASPEKT Application Exam

Exercise 2

If we compile the code and run the program, from the start we can see an infinite loop occurring that will run until the StackOverflowException is thrown as seen in the picture below.



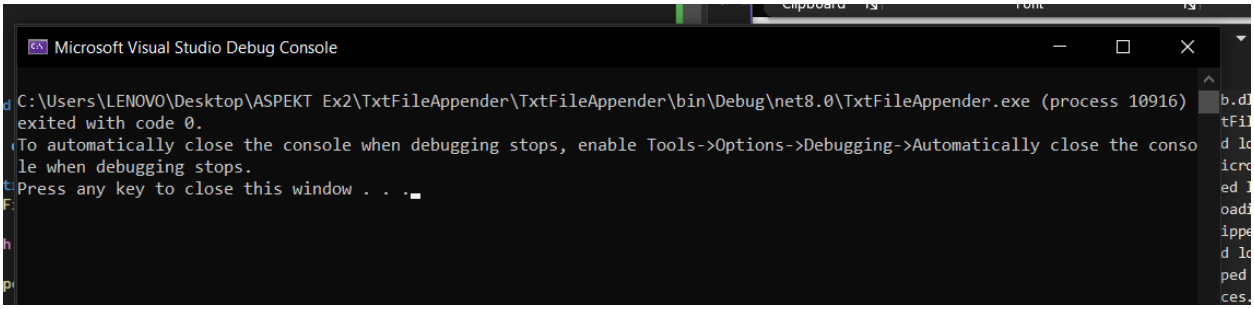
This is because the loop iterates through each subdirectory of the given directoryPath but mistakenly calls the recursion using directoryPath instead of the subdirectory. This causes the function to repeatedly process the same directory without moving into the subdirectories, leading to infinite recursion.

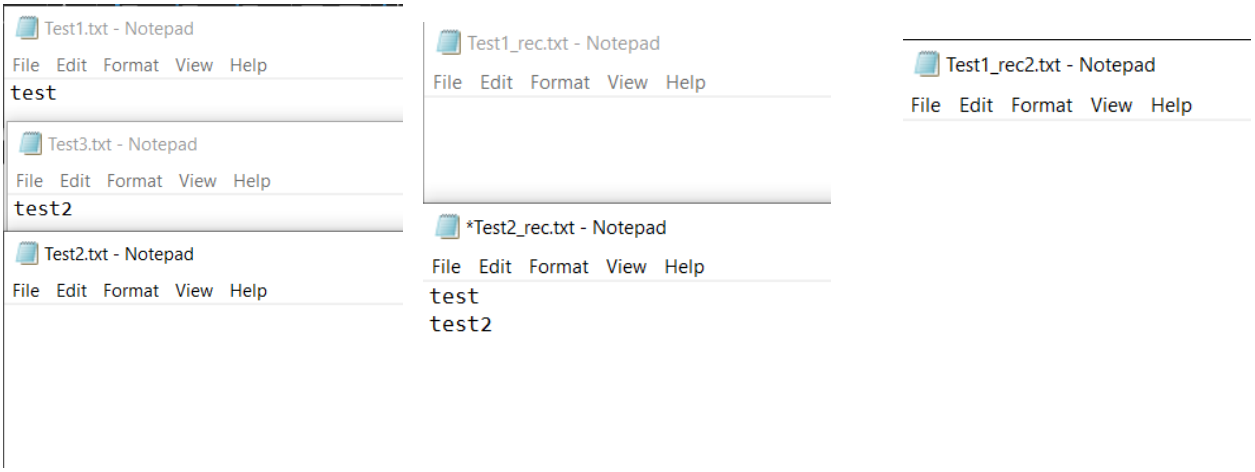
To fix this, we simply put subdirectories instead of directoryPath in the recursion call as shown below.

```
2 references
static void GetTxtFiles(string directoryPath, List<string> txtFiles)
{
    string[] files = Directory.GetFiles(directoryPath, "*.txt");
    txtFiles.AddRange(files);

    string[] subdirectories = Directory.GetDirectories(directoryPath);
    foreach (string subdirectory in subdirectories)
    {
        GetTxtFiles(subdirectory, txtFiles);
    }
}
```

If we run the program now, we can see that the program finishes executing without causing an infinite loop. Unfortunately, when we open the test folder, we can see that nothing was printed in our .txt files.

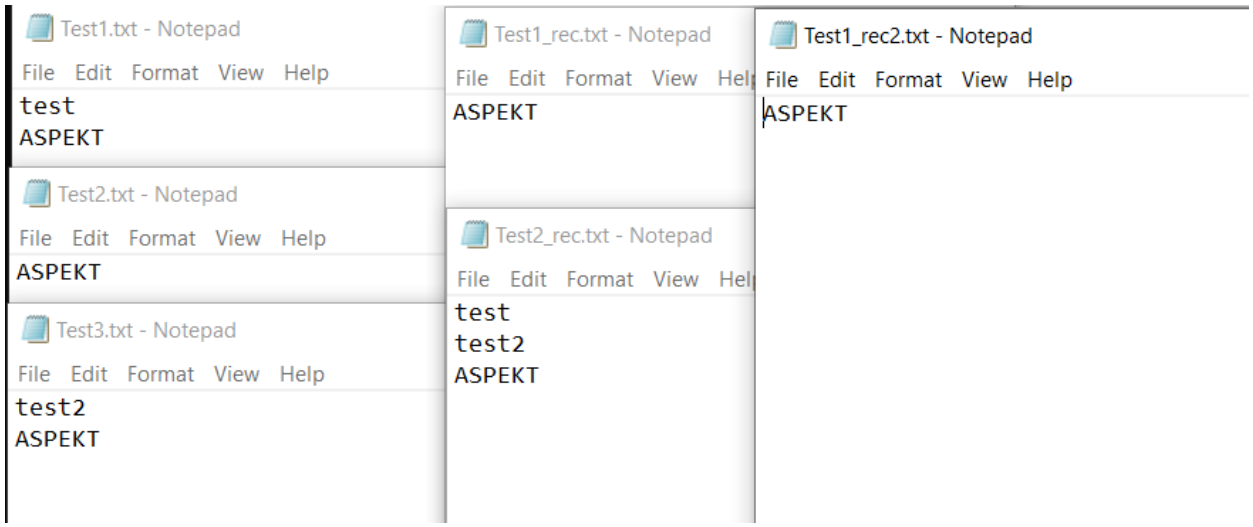




Our code doesn't work because the StreamWriter instance writer is never properly closed or disposed after writing to the file. Without closing the writer, changes might not be saved, and the file can remain locked, leading to runtime errors. To fix this, the StreamWriter should be wrapped in a using statement, which ensures the file is properly closed and resources are released automatically after writing.

```
1 reference
static void AppendTextToFile(string filePath, string textToAppend)
{
    using (StreamWriter writer = File.AppendText(filePath))
    {
        writer.WriteLine(textToAppend);
    }
}
```

Now, once we run the project, we can see that the string "*ASPEKT*" has been successfully added at the end of each file.



The solution code will be attached in the reply mail.

Thank you for your attention.

By: Boris Smokovski