Bstat Assignment – 2

Given a **hierarchical folder structure**, represent it using a general tree and write a program to:

- Count the total number of files.
- Find the deepest folder level.
- Print all file paths using DFS traversal.

[Marks: 10]

Submission Deadline: 24-09-2025

Assignment will be uploaded in the portal by 19-09-2025 and intimation will be sent for the same.

Structure mentioned in test cases will not be part of input. You have to create the tree structure reading respective directory say /test1, /test3 etc.

Test Case 1

/test1

📂 Structure:

```
/test1
 ├── file1.txt
 ├── file2.docx
 └── notes.pdf
```

Expected Output:

```
Total number of files: 3
Deepest folder level : 1
DFS Paths:
/file1.txt
/file2.docx
/notes.pdf
```

Test Case 2

/test2

📂 Structure:

```
/test2
 └── docs
     ├── thesis.docx
     └── references.bib
```

Expected Output:

```
Total number of files: 2
```

```
Deepest folder level : 2
DFS Paths:
/docs/thesis.docx
/docs/references.bib
```

Test Case 3

/test3

📂 Structure:

```
/test3
 └── reports
     ├── 2023
     │    └── final.pdf
     └── 2024
          └── midterm.pdf
```

Expected Output:

```
Total number of files: 2
Deepest folder level : 3
DFS Paths:
/reports/2023/final.pdf
/reports/2024/midterm.pdf
```

Test Case 4

/test4

📂 Structure:

```
/test4
 ├── logs
 │    ├── app.log
 │    └── error.log
 └── config
      └── settings.json
```

Expected Output:

```
Total number of files: 3
Deepest folder level : 2
DFS Paths:
/logs/app.log
/logs/error.log
/config/settings.json
```