

# 1166. Design File System Premium

Medium

Topics

Companies

Hint

You are asked to design a file system that allows you to create new paths and associate them with different values.

The format of a path is one or more concatenated strings of the form: `/` followed by one or more lowercase English letters. For example, `"/leetcode"` and `"/leetcode/problems"` are valid paths while an empty string `""` and `"/"` are not.

Implement the `FileSystem` class:

- `bool createPath(string path, int value)` Creates a new `path` and associates a `value` to it if possible and returns `true`. Returns `false` if the path **already exists** or its parent path **doesn't exist**.
- `int get(string path)` Returns the value associated with `path` or returns `-1` if the path doesn't exist.

## Example 1:

### Input:

```
["FileSystem","createPath","get"]  
[[],["/a",1],["/a"]]
```

### Output:

```
[null,true,1]
```

### Explanation:

```
FileSystem fileSystem = new FileSystem();
```

```
fileSystem.createPath("/a", 1); // return true  
fileSystem.get("/a"); // return 1
```

## Example 2:

### Input:

```
["FileSystem","createPath","createPath","get","createPath","get"]  
[[],["/leet",1],["/leet/code",2],["/leet/code"],["/c/d",1],["/c"]]
```

### Output:

```
[null,true,true,2,false,-1]
```

### Explanation:

```
FileSystem fileSystem = new FileSystem();
```

```
fileSystem.createPath("/leet", 1); // return true  
fileSystem.createPath("/leet/code", 2); // return true  
fileSystem.get("/leet/code"); // return 2  
fileSystem.createPath("/c/d", 1); // return false because the  
parent path "/c" doesn't exist.  
fileSystem.get("/c"); // return -1 because this path doesn't  
exist.
```

## Constraints:

- $2 \leq \text{path.length} \leq 100$
- $1 \leq \text{value} \leq 10^9$
- Each `path` is **valid** and consists of lowercase English letters and `'/'`.
- At most  $10^4$  calls **in total** will be made to `createPath` and `get`.

Seen this question in a real interview before? 1/5

Yes

No

Accepted 65.1K | Submissions 102.7K | Acceptance Rate 63.4%

## Topics

Hash Table

String

Design

Trie

## Companies

0 - 6 months

DoorDash 3

Airbnb 2

Atlassian 2

6 months ago

Microsoft 5

Coinbase 4

Google 3

TikTok 3

Amazon 2

Oracle 2

## Hint 1

What if you think of a tree hierarchy for the files?.

## Hint 2

A path is a node in the tree.

## Hint 3

Use a hash table to store the valid paths along with their values.

## Discussion (10)