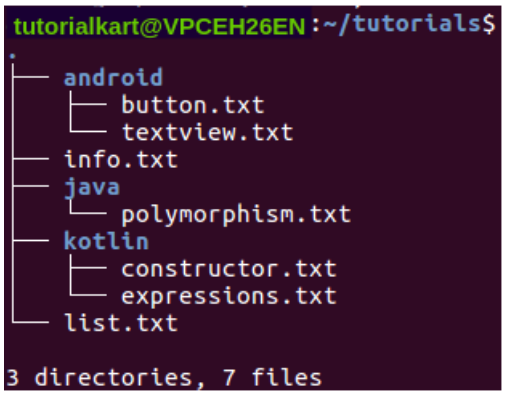
Kotlin – Iterate through All Files in a Directory Recursively

Kotlin – Iterate through All Files in a Directory

We shall use the extension functions of java.io.File : walk(), walkBottomUp, walkTopDown() to generate kotlin.io.**FileTreeWalk** on which we use iterator to traverse the directory and its contents. The functionality of the three functions is almost same except the order in which they iterate through contents.

In the following examples, we will take a folder tree as shown below, to list out the files iteratively in a directory.



Iterate through All Files using java.io.File.walk()

In this example, we will use File.walk() method to traverse the files in the directory and its sub-directories recursively.

example.kt

```
import java.io.File

/**
 * Kotlin Example to traverse directory and its contents
 */
fun main(args: Array) {

    // using extension function walk
    File("/home/arjun/tutorials/").walk().forEach {
        println(it)
    }
}
```

Output

```
/home/tutorialkart/tutorials
/home/tutorialkart/tutorials/info.txt
/home/tutorialkart/tutorials/list.txt
/home/tutorialkart/tutorials/android
/home/tutorialkart/tutorials/android/textview.txt
/home/tutorialkart/tutorials/android/button.txt
/home/tutorialkart/tutorials/kotlin
/home/tutorialkart/tutorials/kotlin/constructor.txt
/home/tutorialkart/tutorials/kotlin/expressions.txt
/home/tutorialkart/tutorials/java
/home/tutorialkart/tutorials/java/polymorphism.txt
```

Iterate through All Files using java.io.File.walkBottomUp()

In this example, we will use File.walkBottomUp() method to list out the files in a given directory and its sub-directories.

example.kt

```
import java.io.File

/**
 * Kotlin Example to traverse directory and its contents
 */
fun main(args: Array) {

    // using extension function walkBottomUp
    File("/home/arjun/tutorials/").walkBottomUp().forEach {
        println(it)
    }
}
```

Output

```
/home/tutorialkart/tutorials/info.txt
/home/tutorialkart/tutorials/list.txt
/home/tutorialkart/tutorials/android/textview.txt
/home/tutorialkart/tutorials/android/button.txt
/home/tutorialkart/tutorials/android
/home/tutorialkart/tutorials/kotlin/constructor.txt
/home/tutorialkart/tutorials/kotlin/expressions.txt
/home/tutorialkart/tutorials/kotlin
/home/tutorialkart/tutorials/java/polymorphism.txt
/home/tutorialkart/tutorials/java
/home/tutorialkart/tutorials
```

Iterate through All Files using java.io.File.walkTopDown()

In this example, we will use File.walkTopDown() method to list out the files in a given directory and its sub-

In this example, we will use File.walkTopDown() method to list out the files in a given directory and its sub-directories.

example.kt

```
import java.io.File

/**
 * Kotlin Example to traverse directory and its contents
 */
fun main(args: Array) {

    // using extension function walkTopDown
    File("/home/arjun/tutorials/").walkTopDown().forEach {
        println(it)
    }
}
```

Output

```
/home/tutorialkart/tutorials
/home/tutorialkart/tutorials/info.txt
/home/tutorialkart/tutorials/list.txt
/home/tutorialkart/tutorials/android
/home/tutorialkart/tutorials/android/textview.txt
/home/tutorialkart/tutorials/android/button.txt
/home/tutorialkart/tutorials/kotlin
/home/tutorialkart/tutorials/kotlin/constructor.txt
/home/tutorialkart/tutorials/kotlin/expressions.txt
/home/tutorialkart/tutorials/java
/home/tutorialkart/tutorials/java/polymorphism.txt
```

Conclusion

In this Kotlin Tutorial, we have learnt to use java.io.File.walk(), java.io.File.walkTopDown() and java.io.File.walkBottomUp() functions to traverse or iterate through all files in a directory and its sub-directories recursively, with the help of Kotlin Examples.

Kotlin Java

- Kotlin Tutorial

Getting Started

- Setup Kotlin(Java) Project
- Kotlin Example Program
- Convert Java to Kotlin

- Kotlin Main Function
- Kotlin Loops
- Kotlin For Loop
- Kotlin While, Do While Loops
- Kotlin Repeat
- Kotlin Ranges
- Kotlin When

Object Oriented Concepts

Classes

- Kotlin - Class, Primary and Secondary Constructors
- Kotlin Sealed Class
- Kotlin Data Class
- Kotlin Enum
- Kotlin - Extension Functions

Inheritance

- Kotlin Inheritance
- Kotlin Override Method of Super Class

Abstraction

- Kotlin Abstraction
- Kotlin Abstract Class
- Kotlin - Interfaces
- Kotlin Null Safety

Exception Handling

- Kotlin Try Catch
- Kotlin Throw Exception
- Kotlin Custom Exception

Fix Compilation Errors

- Kotlin - Variable must be initialized
- Kotlin - Primary Constructor call expected
- Kotlin - Null can not be a value of a non-null type String

- Kotlin - Null can not be a value of a non-null type String
- Kotlin - Cannot create an instance of an abstract class

Kotlin - String Operations

- Kotlin - Compare Strings
- Kotlin - Replace String
- Kotlin - Split String
- Kotlin - Split String to Lines
- Kotlin - String Capitalize

Kotlin - Functions

- Kotlin Function - Default Arguments
- Kotlin - Use Function

Kotlin Collections

Kotlin List

- Kotlin List
- Kotlin List forEach

Kotlin File Operations

- Kotlin - Create File
- Kotlin - Read File
- Kotlin - Read File as List of Lines
- Kotlin - Write to File
- Kotlin - Append Text to File
- Kotlin - Check if File Exists
- Kotlin - Copy a File to Other

➪ **Kotlin - Iterate through all files in a directory**

- Kotlin - Delete Recursively
- Kotlin - Get File Extension

Kotlin Interview Q/A

- Kotlin Interview Questions

Kotlin Android

Kotlin Android

- Kotlin Android Tutorial

Useful Resources

- How to Learn Programming