

ReadMe File

For the given task we **have successfully implemented both Binary Search Tree traversal** using Iterator and also the **extra credit task of preorder, postorder and inorder traversal operations using recursion.**

- The iterator's code is using a dynamic Binary search tree class to create the tree and do the Inorder, Preorder and Postorder Traversals. Hence the code will work for **any data.txt** file given as a input to the program

Please make sure the data.txt file and the code files are in the same folder/directory.

Instructions to run the code for Iterator:

- 1) Extract all the files from the zip folder.
- 2) Navigate to the folder/directory where the files are on the terminal i.e. change the directory to the folder where the files are.
- 3) Make sure that the data.txt file is in the same directory as the code is.
- 4) Run the file iterator.java using the following command

javac iterator.java

(This command will generate two class files, first iterator\$Node.class and the second is iterator.class)

- 5) After generating the class files run the following command to get output on terminal,

java iterator

Commands to run the code

```
C:\Users\admin\Desktop\521_Proj3_Murkute_Lalchandani_Patange>javac iterator.java
C:\Users\admin\Desktop\521_Proj3_Murkute_Lalchandani_Patange>java iterator
```

CSC-521 Advance Programming Project-2

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Date:4/15/2019

```
C:\Windows\System32\cmd.exe
C:\Users\admin\Desktop\proj3>javac iterator.java
C:\Users\admin\Desktop\proj3>java iterator
+++++
Inorder Traversal Using Iterator::
Athens
Barcelona
Cairo
Carson
Las Vegas
London
Los Angeles
New Delhi
NewYork
Paris
Rome
San Diego
San Francisco
Tokyo
Toronto
Venice
+++++
Preorder Traversal Using Iterator:
NewYork
Cairo
Barcelona
Athens
London
Carson
Las Vegas
Los Angeles
New Delhi
Toronto
Paris
Rome
Tokyo
San Diego
San Francisco
Venice
+++++
Postorder Traversal Using Iterator:
Athens
Barcelona
Las Vegas
Carson
New Delhi
Los Angeles
London
Cairo
San Francisco
San Diego
Tokyo
Rome
Paris
Venice
Toronto
NewYork
```

Screenshot of output using Iterator

EXTRA CREDIT TASK

- The recursion code is using a Dynamic Binary search tree class to create the tree and do the Inorder, Preorder and Postorder Traversals. Hence the code will work for the **any data.txt file as input** to the program.

Please make sure the data.txt file and the code files are in the same folder/directory.

Instructions to run the code for recursion:

- 1) Extract all the files from the zip folder
- 2) Navigate to the folder/directory where the files are on the terminal i.e. change the directory to the folder where the files are.
- 3) Make sure that the data.txt file is in the same directory as the code is.
- 4) Run the file recursive.java using the following command

javac recursive.java

(This command will generate two class files, first recursive.class and the second is recursive\$node.class)

- 5) After generating the class files run the following command to get output on terminal,

java recursive

Commands to run the code

```
C:\Users\admin\Desktop\521_Proj3_Murkute_Lalchandani_Patange>javac recursive.java
```

```
C:\Users\admin\Desktop\521_Proj3_Murkute_Lalchandani_Patange>java recursive
```

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```
C:\Windows\System32\cmd.exe
EXTRA CREDIT TASK
+++++
Preorder Traversal Using recursion:
NewYork
Cairo
Barcelona
Athens
London
Carson
Las Vegas
Los Angeles
New Delhi
Toronto
Paris
Rome
Tokyo
San Deiego
San Francisco
Venice
+++++
Instructions to run the code for recursion:
1) Extract all the files from the zip folder
2) Navigate to the folder/directory where the files are on the terminal i.e. change the directory
to the folder where the files are.
3) Make sure that the data.txt file is in the same directory as the code is.
4) Run the file recursive.java using the following command
java recursive.java
(This command will generate two class files, first IteratorCircle class and the second is
Iterater class)
5) After generating the class files run the following command to get output on terminal.
java recursive
+++++
Inorder Traversal Using recursion:
Athens
Barcelona
Cairo
Carson
Las Vegas
London
Los Angeles
New Delhi
NewYork
Paris
Rome
San Deiego
San Francisco
Tokyo
Toronto
Venice
+++++
Postorder traversal Using Recursion:
Athens
Barcelona
Las Vegas
Carson
New Delhi
Los Angeles
London
Cairo
San Francisco
San Deiego
Tokyo
Rome
Paris
Venice
Toronto
NewYork
+++++
```

Screenshot of output using Recursion