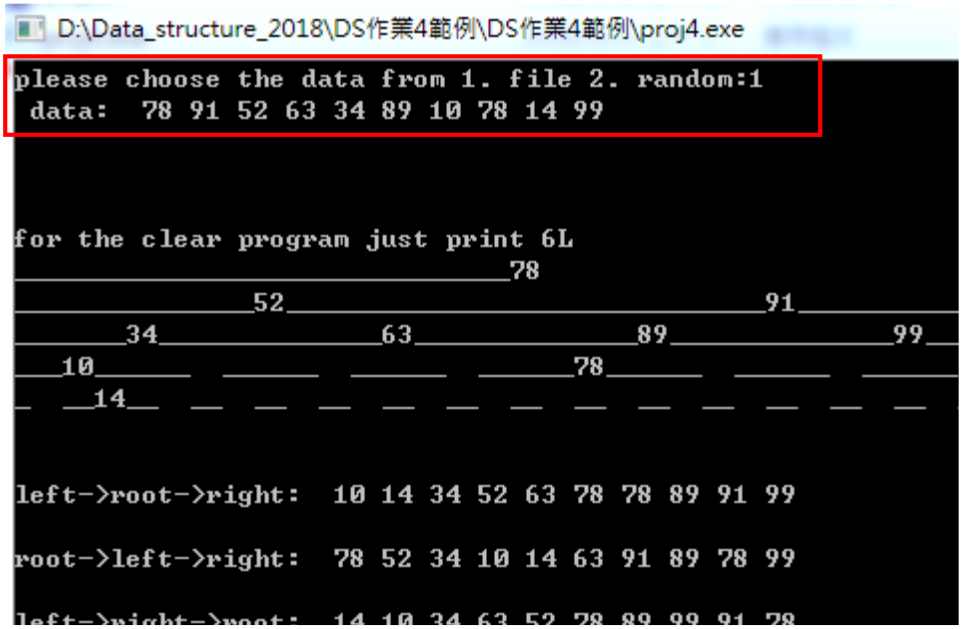
Data Structure Homework 4

Your task is to design a system which stores data in a binary search tree and let you perform different traversal methods.
User can choose the data from
1) read file (data.txt) or
2) allowing the user to generate the amount(1~99) of random variables(1~99)
 for example，enter 5，and then generate 4 22 5 16 8

and you should accomplish the following tasks
0) draw the binary search tree (level ,relations)
1) print Preorder traversal
2) print Inorder traversal
3) print Postorder traversal
4) print Breadth-first traversal(from left-up to right –down)

hint:
Depth-first traversal methods can be defined with recursive functions.
You can use a queue to implement the breadth-first traversal.

Example 1：
read file (data.txt).
store the data in a binary search tree
print Preorder , Inorder , Postorder and BFT.

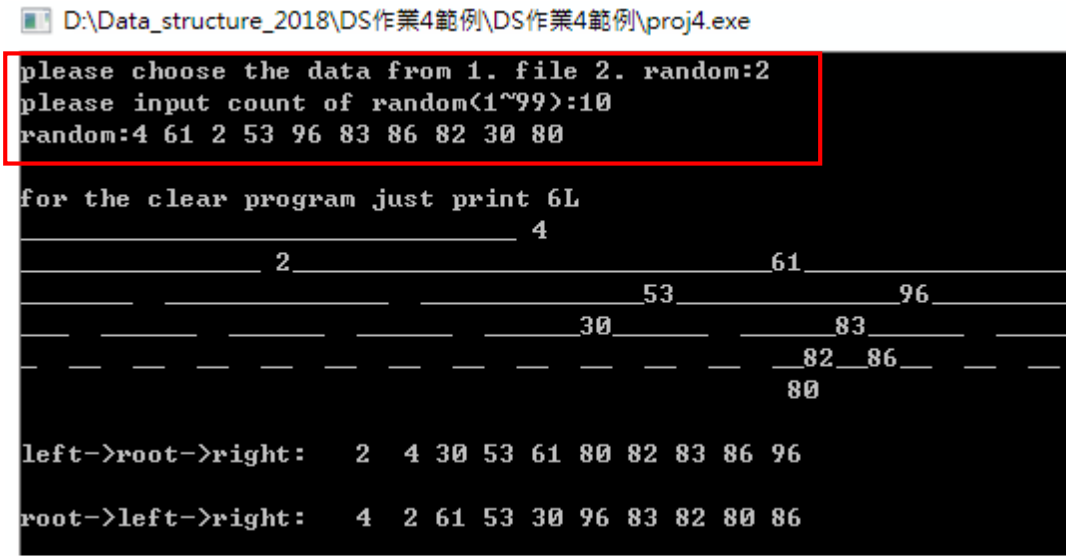


Example 2：

Enter a number ,and generate the number of random variables.

store those random variables in a binary search tree.

print Preorder , Inorder , Postorder and BFT.



Notices

- ✓ Programming languages: C/C++
- ✓ Attach a description file to explain your programs.
- ✓ Please appropriately add comments in your code.
- ✓ This homework must contain the source code, the executable file (.exe) and the description file (.doc), and add to the compress file (.zip).
- ✓ File name: HW4_student number.zip
- ✓ Please do not copy.
- ✓ **Deadline: 6/10(Sun.) 23:55 upload to Moodle**