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CS 302 – 1001

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**Leaning Left Red Black Trees Program Output**

**Section 2. Exercise on using Left Leaning Red Black Trees (LLRBTs)**

On the basis of the implementation example provided at *http://www.teachsolaisgames.com/articles/balanced\_left\_leaning.html* (uploaded also in the canvas announcement but mentioned here to acknowledge the author), you are requested to use LLRBTs with correspondence to 2-3 Trees (check relevant flag) and perform:

1. Insertion of 10 random variables
2. Removal of the fourth random variable you inserted

***Terminal View:***

A screenshot of a cell phone

Description automatically generated

***Copy/Paste Terminal Text:***

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///// Left Leaning Red Black Tree Data Structure /////

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Inserting Process: 62

Preorder Traversal: 62(B)

Inserting Process: 83

Preorder Traversal: 83(B) 62(R)

Inserting Process: 70

Preorder Traversal: 70(B) 62(B) 83(B)

Inserting Process: 95

Preorder Traversal: 70(B) 62(B) 95(B) 83(R)

Inserting Process: 22

Preorder Traversal: 70(B) 62(B) 22(R) 95(B) 83(R)

Inserting Process: 19

Preorder Traversal: 70(B) 22(R) 19(B) 62(B) 95(B) 83(R)

Inserting Process: 28

Preorder Traversal: 70(B) 22(R) 19(B) 62(B) 28(R) 95(B) 83(R)

Inserting Process: 19

Preorder Traversal: 70(B) 22(R) 19(B) 19(R) 62(B) 28(R) 95(B) 83(R)

Inserting Process: 64

Preorder Traversal: 62(B) 22(B) 19(B) 19(R) 28(B) 70(B) 64(B) 95(B) 83(R)

Inserting Process: 49

Preorder Traversal: 62(B) 22(B) 19(B) 19(R) 49(B) 28(R) 70(B) 64(B) 95(B) 83(R)

Deletion Process: 95

Preorder Traversal: 62(B) 22(B) 19(B) 19(R) 49(B) 28(R) 70(B) 64(B) 83(B)