**Analysis and Design of Algorithm**

OPEN-ENDED EXPERIMENT REPORT

ON

**“RED BLACK TREES”**

Bachelor of Engineering

in

INFORMATION SCIENCE AND ENGINEERING

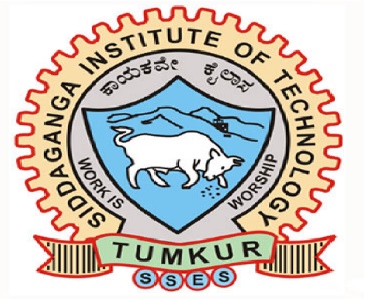
of

Visvesvaraya Technological University, Belagavi.

By

ARUN P N (1SI17IS007)

HARIKESH B G (1SI17IS012)



Department of Information Science and Engineering,

Siddaganga Institute of Technology,

Tumakuru – 572103

2019-20

**Problem Statement:**

Implementation of RED-BLACK TREE by Dynamic Programming.

**Solution:**

We implemented RED-BLACK TREE using AVL Tree rotations by Dynamic Programming.

**Algorithmic Technique:**

Dynamic Programming.

**Efficiency cases:**

Best case : O(n)

Average case : O(log n)

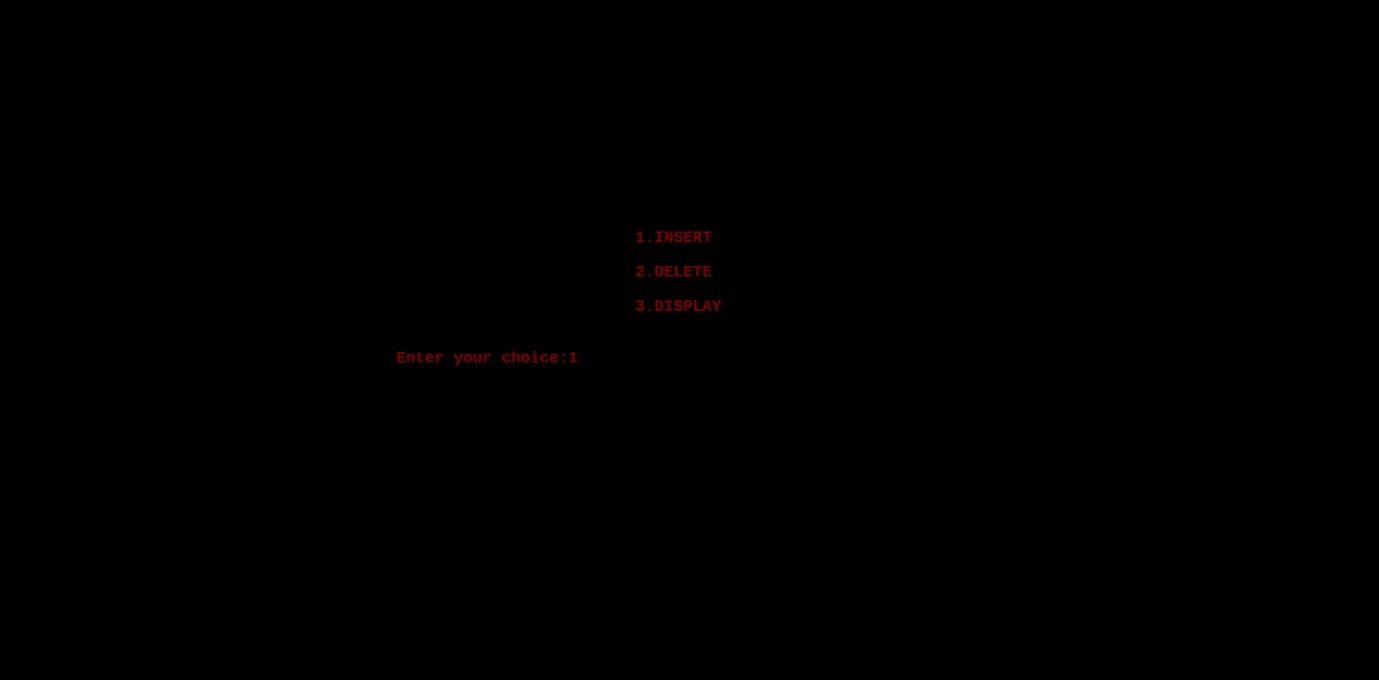
Worst case : O(log n)

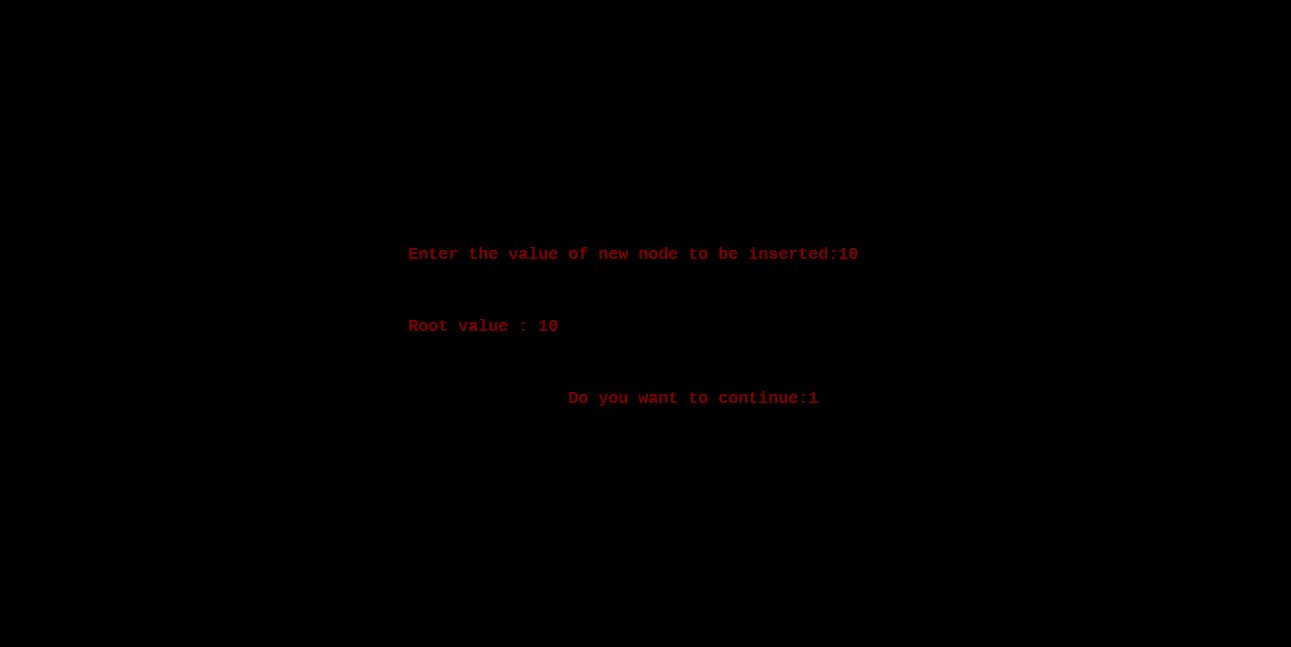
**Real-time Applications:**

* It is used in Process scheduler in LINUX kernel to keep track of Virtual Memory Segment.
* They are used in K-means clustering algorithm to reduce Time complexity.

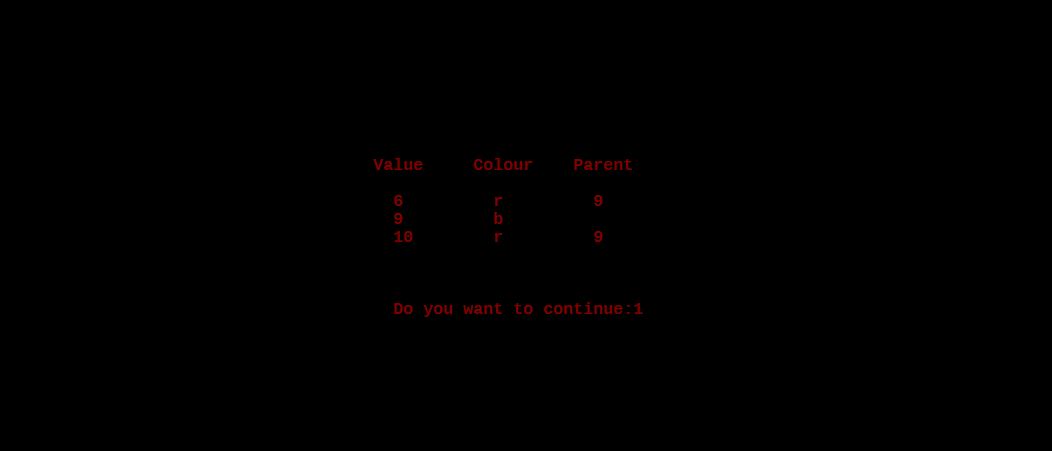
**Outputs:**

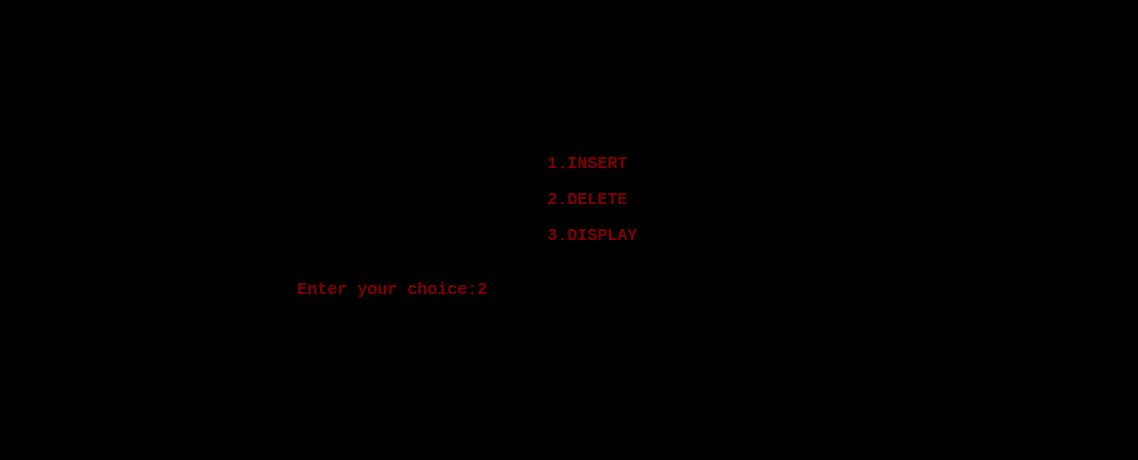
****

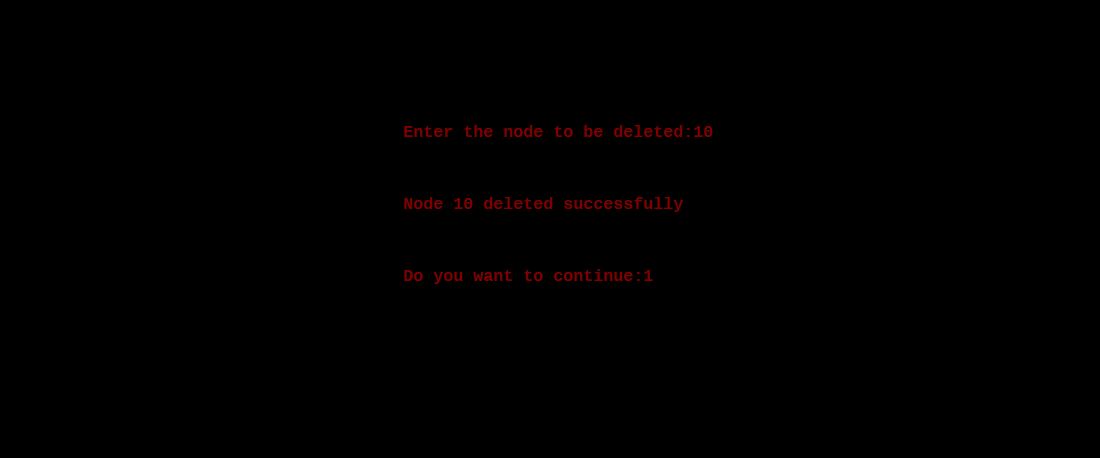
****

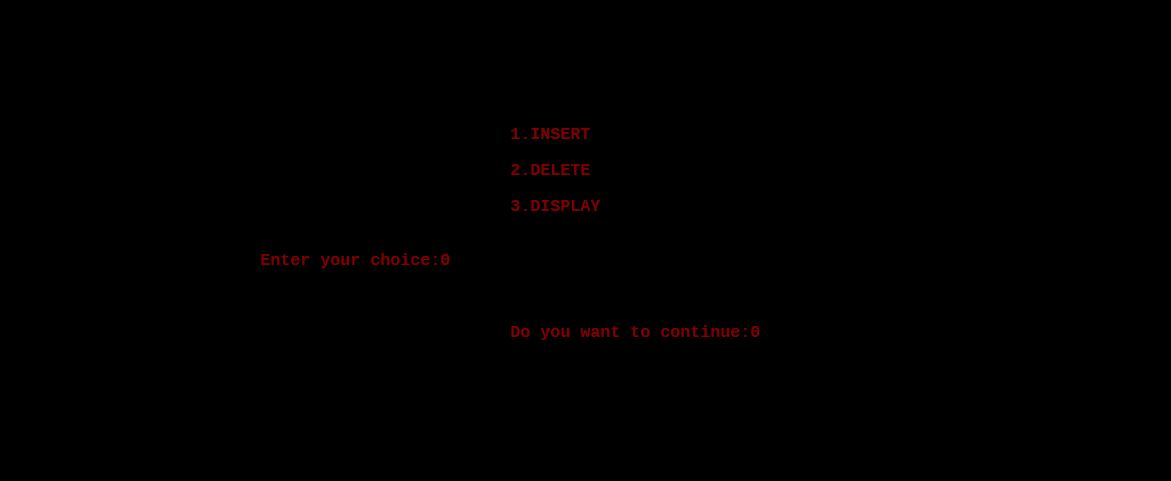
****

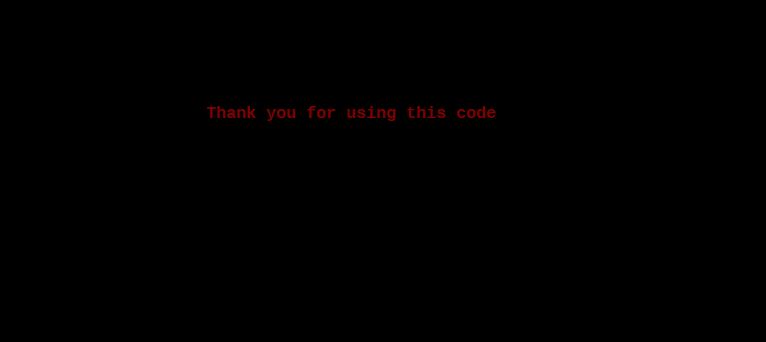
****

****

****

****

****

****