**Hash:**

**Runtime Test Cases**

Implementation of Hash Table in C

MENU-:

1. Inserting item in the Hash Table

2. Removing item from the Hash Table

3. Check the size of Hash Table

4. Display Hash Table

Please enter your choice-: 3

Size of Hash Table is-: 0

Do you want to continue-:(press 1 for yes) 1

Implementation of Hash Table in C

MENU-:

1. Inserting item in the Hash Table

2. Removing item from the Hash Table

3. Check the size of Hash Table

4. Display Hash Table

Please enter your choice-: 1

Inserting element in Hash Table

Enter key -: 1

key (1) and value (1) has been inserted

Do you want to continue-:(press 1 for yes) 1

Implementation of Hash Table in C chaining with singly linked list

MENU-:

1. Inserting item in the Hash Table

2. Removing item from the Hash Table

3. Check the size of Hash Table

4. Display Hash Table

Please enter your choice-: 4

array[0] has no elements

array[1] has no elements key = 1 and value = 1

array[2] has no elements

array[3] has no elements

array[4] has no elements

array[5] has no elements

array[6] has no elements

array[7] has no elements

array[8] has no elements

array[9] has no elements

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Do you want to continue-:(press 1 for yes) 1

**Threaded Binary Search Tree**

**Runtime Test Cases**

/\* C Program to Implement operations in Threaded Binary Search Tree \*/

1.Insert

2.Delete

3.Inorder Traversal

4.Preorder Traversal

5.Quit

Enter your choice : 1

Enter the number to be inserted : 5

1.Insert

2.Delete

3.Inorder Traversal

4.Preorder Traversal

5.Quit

Enter your choice : 1

Enter the number to be inserted : 3

1.Insert

2.Delete

3.Inorder Traversal

4.Preorder Traversal

5.Quit

Enter your choice : 1

Enter the number to be inserted : 4

1.Insert

2.Delete

3.Inorder Traversal

4.Preorder Traversal

5.Quit

Enter your choice : 1

Enter the number to be inserted : 2

1.Insert

2.Delete

3.Inorder Traversal

4.Preorder Traversal

5.Quit

Enter your choice : 1

Enter the number to be inserted : 7

1.Insert

2.Delete

3.Inorder Traversal

4.Preorder Traversal

5.Quit

Enter your choice : 1

Enter the number to be inserted : 6

1.Insert

2.Delete

3.Inorder Traversal

4.Preorder Traversal

5.Quit

Enter your choice : 1

Enter the number to be inserted : 8

1.Insert

2.Delete

3.Inorder Traversal

4.Preorder Traversal

5.Quit

Enter your choice : 3

2 3 4 5 6 7 8

1.Insert

2.Delete

3.Inorder Traversal

4.Preorder Traversal

5.Quit

Enter your choice : 4

5 3 2 4 7 6 8

1.Insert

2.Delete

3.Inorder Traversal

4.Preorder Traversal

5.Quit

Enter your choice : 2

Enter the number to be deleted : 5

1.Insert

2.Delete

3.Inorder Traversal

4.Preorder Traversal

5.Quit

Enter your choice : 3

3 4 2 6 7 8

1.Insert

2.Delete

3.Inorder Traversal

4.Preorder Traversal

5.Quit

Enter your choice : 4

2 3 4 7 6 8

1.Insert

2.Delete

3.Inorder Traversal

4.Preorder Traversal

5.Quit

Enter your choice : 5

Process returned 1

**AVL Tree**

**Runtime Test Cases**

**1)Create:**

**2)Insert:**

**3)Delete:**

**4)Print:**

**5)Quit:**

**Enter Your Choice:1**

**Enter no. of elements:4**

**Enter tree data:7 12 4 9**

**1)Create:**

**2)Insert:**

**3)Delete:**

**4)Print:**

**5)Quit:**

**Enter Your Choice:4**

**Preorder sequence:**

**7(Bf=-1)4(Bf=0)12(Bf=1)9(Bf=0)**

**Inorder sequence:**

**4(Bf=0)7(Bf=-1)9(Bf=0)12(Bf=1)**

**1)Create:**

**2)Insert:**

**3)Delete:**

**4)Print:**

**5)Quit:**

**Enter Your Choice:3**

**Enter a data:7**

**1)Create:**

**2)Insert:**

**3)Delete:**

**4)Print:**

**5)Quit:**

**Enter Your Choice:4**

**Preorder sequence:**

**9(Bf=0)4(Bf=0)12(Bf=0)**

**Inorder sequence:**

**4(Bf=0)9(Bf=0)12(Bf=0)**

**1)Create:**

**2)Insert:**

**3)Delete:**

**4)Print:**

**5)Quit:**

**Enter Your Choice:5**

**Traverse the Tree using Recursion**

[**https://www.onlinegdb.com/online\_c\_compiler**](https://www.onlinegdb.com/online_c_compiler)

**Runtime Test Cases**

Enter your choice:

1. Insert

2. Traverse via infix

3. Traverse via prefix

4. Traverse via postfix

5. Exit

Choice: 1

Enter element to insert: 5

Enter your choice:

1. Insert

2. Traverse via infix

3. Traverse via prefix

4. Traverse via postfix

5. Exit

Choice: 1

Enter element to insert: 3

Enter your choice:

1. Insert

2. Traverse via infix

3. Traverse via prefix

4. Traverse via postfix

5. Exit

Choice: 1

Enter element to insert: 4

Enter your choice:

1. Insert

2. Traverse via infix

3. Traverse via prefix

4. Traverse via postfix

5. Exit

Choice: 1

Enter element to insert: 6

Enter your choice:

1. Insert

2. Traverse via infix

3. Traverse via prefix

4. Traverse via postfix

5. Exit

Choice: 1

Enter element to insert: 2

Enter your choice:

1. Insert

2. Traverse via infix

3. Traverse via prefix

4. Traverse via postfix

5. Exit

Choice: 2

2 3 4 5 6

Enter your choice:

1. Insert

2. Traverse via infix

3. Traverse via prefix

4. Traverse via postfix

5. Exit

Choice: 3

5 3 2 4 6

Enter your choice:

1. Insert

2. Traverse via infix

3. Traverse via prefix

4. Traverse via postfix

5. Exit

Choice: 4

2 4 3 6 5

Enter your choice:

1. Insert

2. Traverse via infix

3. Traverse via prefix

4. Traverse via postfix

5. Exit

Choice: 5

Memory Cleared

PROGRAM TERMINATED