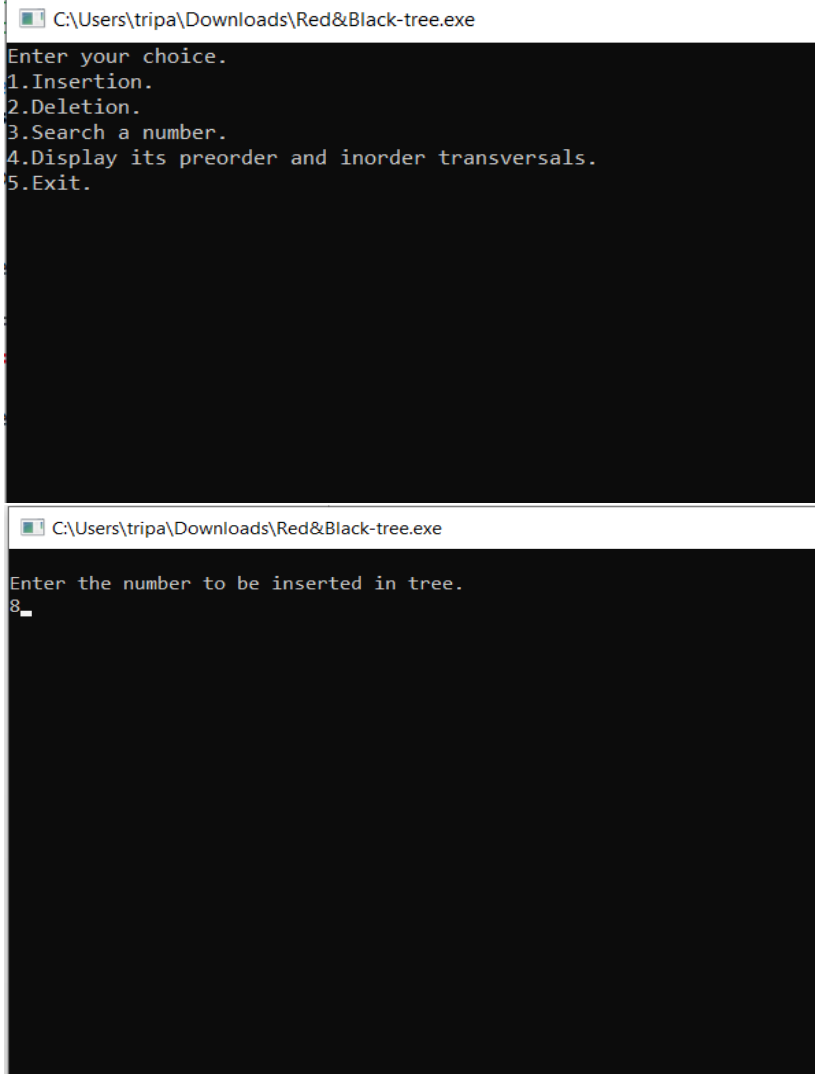


OUTPUT SCREENSHOTS

Question 1.



```
C:\Users\tripa\Downloads\Red&Black-tree.exe
Enter your choice.
1.Insertion.
2.Deletion.
3.Search a number.
4.Display its preorder and inorder transversals.
5.Exit.

C:\Users\tripa\Downloads\Red&Black-tree.exe
Enter the number to be inserted in tree.
8_
```

C:\Users\tripa\Downloads\Red&Black-tree.exe

Enter the number to be inserted in tree.

4

C:\Users\tripa\Downloads\Red&Black-tree.exe

Enter number to be deleted.

5

Element is not in the tree

Press any key to continue . . .

C:\Users\tripa\Downloads\Red&Black-tree.exe

Enter number to be searched.

8

8color :blackPress any key to continue . . .

```
C:\Users\tripa\Downloads\Red&Black-tree.exe

Preorder:

Element: 8      Color: Black
Element: 4      Color: Red
Inorder:

Element: 4      Color: Red
Element: 8      Color: BlackPress any key to continue . . .
```

Question 2

```
C:\Users\tripa\Downloads\2.exe

KRUSKAL'S ALGORITHM
Enter the no. of vertices in the graph:3

Enter the weights of the following:
edge 1 , 2 :5
edge 1 , 3 :4
edge 2 , 3 :6

The edges in the given graph are::
< 1 , 2 > 5
< 1 , 3 > 4
< 2 , 3 > 6

After sorting the edges in the given graph are::
1 , 3 > :4
1 , 2 > :5
2 , 3 > :6

***** THE MINIMUM SPANNING TREE IS*****The edge included in MST is :: < 1 , 3 >
The edge included in MST is :: < 1 , 2 >
Edge < 2 , 3 > is not included as it forms a cycle

-----
Process exited after 21.96 seconds with return value 0
Press any key to continue . . .
```

Question 3

C:\Users\tripa\Downloads\Sorting.exe

```
Enter your choice.  
1.Bubble Sort.  
2.Insertion Sort.  
3.Selection Sort.  
4.Quick Sort.  
5.Merge Sort  
6.Exit.  
_
```

C:\Users\tripa\Downloads\Sorting.exe

```
          A: [3, 7, 9, 10, 6, 5, 12, 4, 11, 2]  
After Bubble Sort  
Sorted A: [2, 3, 4, 5, 6, 7, 9, 10, 11, 12]  
Press any key to continue . . . _
```

C:\Users\tripa\Downloads\Sorting.exe

```
      A: [2, 3, 4, 5, 6, 7, 9, 10, 11, 12]
After insertion Sort
Sorted A: [2, 3, 4, 5, 6, 7, 9, 10, 11, 12]
Press any key to continue . . .
```

C:\Users\tripa\Downloads\Sorting.exe

```
      A: [2, 3, 4, 5, 6, 7, 9, 10, 11, 12]
After Selection Sort
Sorted A: [2, 3, 4, 5, 6, 7, 9, 10, 11, 12]
Press any key to continue . . .
```

C:\Users\tripa\Downloads\Sorting.exe

A: [2, 3, 4, 5, 6, 7, 9, 10, 11, 12]

After Quick Sort

Sorted A: [2, 3, 4, 5, 6, 7, 9, 10, 11]

Press any key to continue . . .

C:\Users\tripa\Downloads\Sorting.exe

A: [2, 3, 4, 5, 6, 7, 9, 10, 11, 12]

After Merge Sort

Sorted A: [2, 3, 4, 5, 6, 7, 9, 10, 11, 12]

Press any key to continue . . .