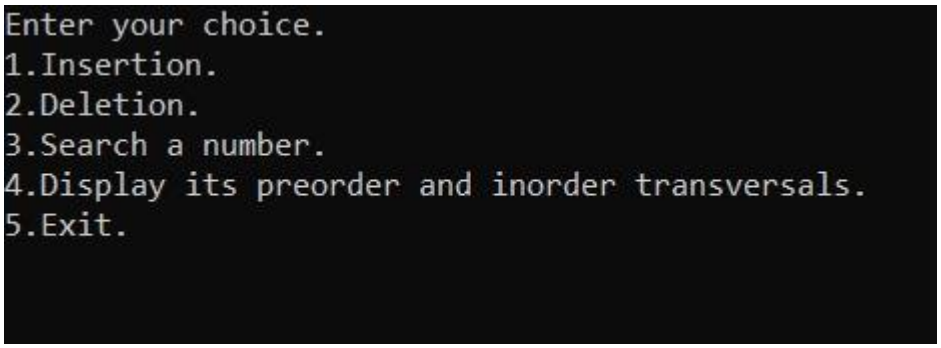
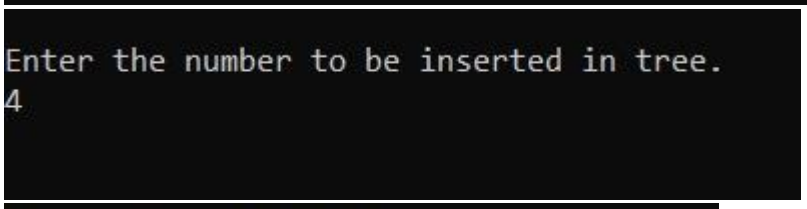
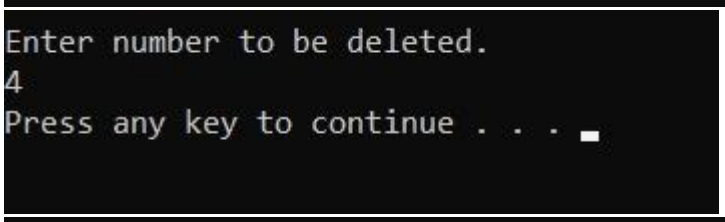
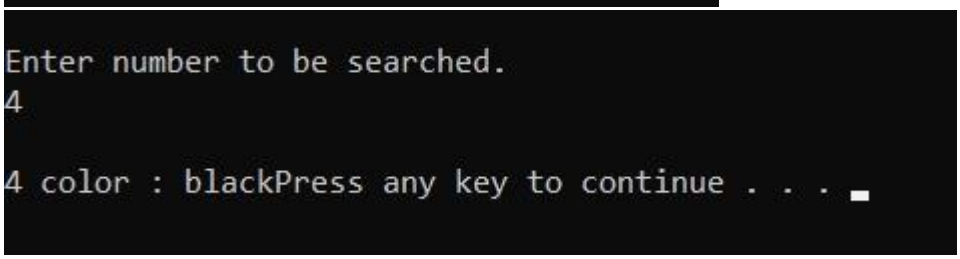
QUESTION 1 OUTPUT-




QUESTION 2 OUTPUT-

```
***************KRUSKAL'S ALGORITHM***************
Enter the no. of vertices in the graph: 4

Enter the weights of the following:
edge 1 , 2 :10
edge 1 , 3 :40
edge 1 , 4 :20
edge 2 , 3 :60
edge 2 , 4 :30
edge 3 , 4 :70


The edges in the given graph are::
 < 1 , 2 > 10
 < 1 , 3 > 40
 < 1 , 4 > 20
 < 2 , 3 > 60
 < 2 , 4 > 30
 < 3 , 4 > 70


After sorting the edges in the given graph are::
1 , 2 > ::10
1 , 4 > ::20
2 , 4 > ::30
1 , 3 > ::40
2 , 3 > ::60
3 , 4 > ::70

********* THE MINIMUM SPANNING TREE IS**************The edge included in MST is :: < 1 , 2 >
The edge included in MST is :: < 1 , 4 >
Edge  < 2 , 4 > is not included as it forms a cycle

The edge included in MST is :: < 1 , 3 >
Edge  < 2 , 3 > is not included as it forms a cycle

Edge  < 3 , 4 > is not included as it forms a cycle


--------------------------------
Process exited after 10.67 seconds with return value 0
Press any key to continue . . .
```

QUESTION 3 OUTPUTS-

```
Enter the number of data element to be sorted: 4
Enter element 1: 9
Enter element 2: 5
Enter element 3: 2
Enter element 4: 3

Sorted Data ->2->3->5->9
--------------------------------
Process exited after 8.234 seconds with return value 0
Press any key to continue . . .
```

```
Enter the no of elements in array: 3

******MENU******

1.Worst Case

2.Best Case

3.Average Case

Enter your choice: 1

Enter the elements of array


SELECTION SORTING

Array after 1 pass:
1
2
3

Array after 2 pass:
1
2
3

Comparisons=3
Want to do more(Y/N)?
```

```
Enter the number of data element to be sorted: 5
Enter element 1: 1
Enter element 2: 7
Enter element 3: 3
Enter element 4: 4
Enter element 5: 8

Sorted Data ->1->3->4->7->8
--------------------------------
Process exited after 10.34 seconds with return value 0
Press any key to continue . . .
```

```
Enter the no of elements in array: 4

******MENU******

1.Worst Case

2.Best Case

3.Average Case

Enter your choice: 1

Enter the elements of array


BUBBLE SORTING

Array after 1 pass:
3
2
1
4

Array after 2 pass:
2
1
3
4

Array after 3 pass:
1
2
3
4

Comparisons=6
Want to do more(Y/N)?
```

```
Enter the no of elements in array: 5

******MENU******

1.Worst Case

2.Best Case

3.Average Case

Enter your choice:1

Enter the elements of array


INSERTION SORTING

Array after 1 pass:
4
5
3
2
1

Array after 2 pass:
3
4
5
2
1

Array after 3 pass:
2
3
4
5
1

Array after 4 pass:
1
2
3
4
5
no of comparisons=10
Want to do more(Y/N)?
```