*/\*.....Assignment No.5 \*/*

#include <iostream> #include<stdlib.h> **using namespace** std**;**

**class** node

{

public:

**int** data**;**

**int** lbit**,**rbit**;** node **\***left**,\***right**;**

};

**class** TBT

{

private:

node **\***root**,\***dummy**; public:**

**void** create**(int** num**);**

**void** insert**(**node **\***trav**,**node **\***temp**); void** preorder**();**

**void** display**();** TBT**()**

{

root**=**NULL**;** dummy**=**NULL**;**

}

**}\***root**,\***dummy**;**

**void** TBT**::**create**(int** num**)**

{

node **\***trav**,\***temp**;** temp**=new** node**();** temp**->**data**=**num**;** temp**->**lbit**=**0**;** temp**->**rbit**=**0**; if(**root**==**NULL**)**

{

}

else

{

}

}

dummy**=new** node**;** dummy**->**data**=-**9999**;** dummy**->**lbit**=**0**;** dummy**->**rbit**=**0**;** dummy**->**left**=**temp**;** dummy**->**right**=**dummy**;** temp**->**left**=**dummy**;** temp**->**right**=**dummy**;** root**=**temp**;**

trav**=**root**;** insert**(**trav**,**temp**);**

**void** TBT**::**insert**(**node **\***trav**,**node **\***temp**)**

{

**if(**temp**->**data**<**trav**->**data**)**

{

**if(**trav**->**lbit**==**0**)**

{

}

else

{

}

}

temp**->**left**=**trav**->**left**;** temp**->**right**=**trav**;**

trav**->**left**=**temp**;** trav**->**lbit**=**1**;**

insert**(**trav**->**left**,**temp**);**

**if(**temp**->**data**>**trav**->**data**)**

{

**if(**trav**->**rbit**==**0**)**

{

}

else

{

}

}

temp**->**right**=**trav**->**right**;** temp**->**left**=**trav**;**

trav**->**right**=**temp**;** trav**->**rbit**=**1**;**

insert**(**trav**->**right**,**temp**);**

}

**void** TBT**::**preorder**()**

{

node **\***trav**;** trav**=**root**; while(**trav**!=**dummy**)**

{

cout**<<**trav**->**data**<<**endl**; if(**trav**->**lbit**==**1**)**

{

}

else

{

trav**=**trav**->**left**;**

**while(**trav**->**rbit**==**0 **&&** trav**->**right**!=**dummy**)**

{

trav**=**trav**->**right**;**

}

trav**=**trav**->**right**;**

}

}

}

**void** TBT**::**display**()**

{

**int** n**,**i**,**data**;**

cout<<"\n Enter the number of nodes \n";

cin**>>**n**;**

cout<<"\n Enter the data in the Nodes \n"; for (i=0;i<n;i++)

{

cin**>>**data**;** create**(**data**);**

}

cout<<"\n Preorder: \n";

preorder**();**

}

**int** main**()**

{

TBT T**;**

T**.**display**(); return** 0**;**

}

*/\* OUTPUT*

*Enter the number of nodes*

*6*

*Enter the data in the Nodes 78*

*43*

*12*

*89*

*34*

*85*

*Preorder: 78*

*43*

*12*

*34*

*89*

*85*

*\*/*