

## Labwork 7

Your work will be evaluated using Visual Studio 2015. You are not allowed to make any changes to the pre-existing code in genBST.h. You are only allowed to add code to the member functions you will implement. Your work should compile and run along with the example main function provided.

You can implement additional functions if it will make coding easier.

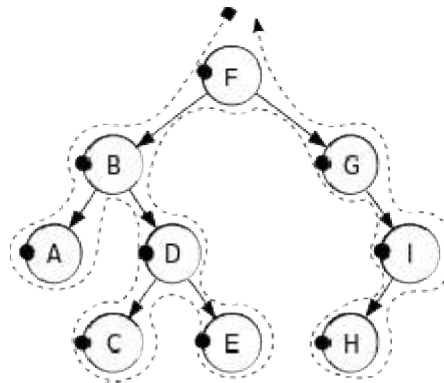
**Q1 of 3:** Implement a function which prints all elements in the BST smaller than the parameter, in an ascending order. Function prototype is:

```
void printsmallerthan(T el);
```

**Example:**

el = F,    Output: A B C D E

el = D,    Output: A B C



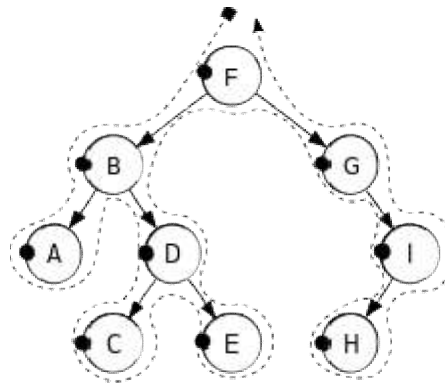
**Q2 of 3:** Implement a function which returns the  $n^{\text{th}}$  smallest element in the BST. Function prototype is:

```
T getnthelement(int n);
```

**Example:**

n = 2,    Function returns "B"

n = 7,    Function returns "G"



**Q3 of 3:** Implement a function which returns whether a tree is balanced or not. Prototype of the function is:

```
bool isbalanced();
```

**Example:** The following tree is **not** balanced.

