TI DSP, MCU, Xilinx Zynq FPGA Based Programming Expert Program

Instructor – Innova Lee(Sanghoon Lee)
gcccompil3r@gmail.com
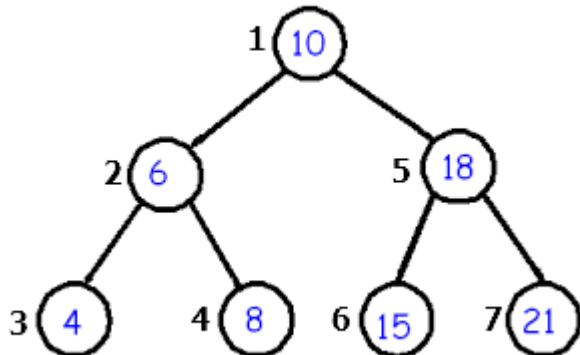**Student – Hyungju Kim**
mihaelkel@naver.com

Binary Search Tree(BST)

Non-recursive print algorithm :

After printing out current node's data, node pointer moves to left child. At the same time, Right child pushes in stack.

 If It has no left child, bring a node at the top in stack.

```c
void print_tree(tree **root)
{
    tree **tmp = root;
    stack *top = NULL;

    push(&top, *tmp);

    while(stack_is_not_empty(top))
    {
        tree *t = (tree *)pop(&top);
        tmp = &t;

        printf("data = %d, ", (*tmp)->data);

        if((*tmp)->left)
            printf("left = %d, ", (*tmp)->left->data);
        else
            printf("left = NULL, ");

        if((*tmp)->right)
            printf("right = %d\n", (*tmp)->right->data);
        else
            printf("right = NULL\n");

        push(&top, (*tmp)->right);
        push(&top, (*tmp)->left);
    }
}
```