

# Lab 06 - Nodes & Stacks Problems

**Direction:** Submit typed work in the Labs directory of your github repositor or dropbox, or upload to the google classroom assignment. Each part should be a separate files. The files named should be "lab6A.cpp" and "lab6B.cpp" respectively.

## Part A: In class

Your objective is to write the definition of the function `ForwardRotation()` whose header is

```
template<typename T>
void ForwardRotation(Node<T>*& root)
```

Given that `root` is referencing a null-terminated doubly linked list, the function makes the last node of the linked list referenced by `root` the new first node of the linked list referenced by `root` given that the linked list contains at least two nodes.

## Part B: Take home

Your objective is to write the definition of the function `IsValidWord()` whose header is

```
bool IsValidWord(string wrd)
```

It returns true, if `wrd` is in the format  $((a^+bb)^+a^+)^*$  [all instances of `b` in the string is a pair that is both preceded and followed by at least one `a`] where  $a$  and  $b$  can be in any case; otherwise, it returns false. For instance, the function calls `IsValidWord("aaabBaBBa")` and `IsValidWord("bBA")` will evaluate to true and false respectively. You must use a stack.