08. 03. 2018

LABWORK 6

Due date: 23:59 11.03.2018

(There is %10 penalty for each day)

Q1) Define a stack class called MyStack. All data in a MyStack must be stored in a SinglyLinkedList instance. Implement the following member methods in the MyStack class:

- push – Pushes a new element into the stack.
- pop – Removes the top element from the stack.
- top – Retrieves the top element from the stack.
- isEmpty – Returns true if the stack is empty, and false otherwise.
- print – prints the stack from bottom to top.
- Class definition and method implementation should be performed in a header filed named **MyStack.h**

For all remaining questions, use MyStack class.

Q2) Implement the following non-member function which reverses a given stack. Reverse stack must be done using stack-based logic. Data in the stack must be reversed, do not just print reverse.

```
void reverseString(MyStack & st);
```

Q3) Implement the following function which determines whether a given stack is Awesome or not. A stack is Awesome if it reads the same backward or forward. For example, “12344321” or “34543” is an Awesome stack.

```
bool isAwesome(MyStack & st);
```

Q4) Implement the following function which determines whether a given stack is reverse of the second one. For example “12345” is the reverse of “54321”.

```
bool isReverse(MyStack & st1, MyStack & st2);
```

WARNING: Question 2, 3 and 4 must be implemented by using stack-based logic. Thus, data structures other than stack are strictly forbidden.