Lab Assignment 4

CS 301 – Data Structures

Implementation

You are given a file *StackLinkedList.java* (which you can download from Canvas).The file constains several classes, the frist class is the *Car* class, which will simply be used to test the program. The class *Node* which can be used to build a linked list, and a class named *StackLinkedList* with comments for functions *push*, *pop*, *peek*, and *print*. Implement those functions. **Do not make any changes in the main method or the other classes (e. g. by adding helper functions); such changes will be undone.**

The main method already implemented at the end of the file *StackLinkedList.java* tests all of the functions you are asked to implement. Note that the purpose of the tests is for you to avoid major mistakes. **Passing all given tests *does not* imply that your algorithm is correct, especially that is has the expected runtime.**

Additional Details

Have a look at slides about **Stack** and **LinkedList**, the operations which you have to implement are straight forward. Adding an item to the stack will happen at the "head" of the list. Removing an item from stack wil happen at the same end of the list.

When implementing the functions *pop* and *peek* you have to check if the stack is not empty. Have a look at the lecture slides for hints on how this can be accomplished.

Submission

For your submission, upload the file *StackLinkedList.java* with your implementation to canvas. Make sure your file has comments on top of the file containing your name, date and assignment name *Lab Assignment 4* .

This is an individual assignment. Therefore, a submission is required from each student.