

1. Write a program which implements an unbounded stack (a Last-In-First-Out structure using non-sequential memory storage – the linked list), aimed at storing real numbers, and a set of methods operating on this structure:
 - the default constructor,
 - the copy-constructor (with memory allocation),
 - the assignment operator= (with memory deallocation and allocation),
 - the comparison operator==,
 - the destructor (with memory deallocation),
 - push – adding a real number to the stack (with memory allocation),
 - pop – removing from the stack a real number pushed there most recently or throwing an empty stack exception (with memory deallocation),
 - top – returning the most recently pushed number or throwing an empty stack exception,
 - print – printing the values which are on the stack currently, starting from the one pushed recently,
 - empty – informing whether the stack is empty,
 - size – returning the number of the items on the stack,
 - clear – removing all the items from the stack (with memory deallocation).

The program should use all these methods to make the operations as follows:

- 1) create a stack containing the numbers given by the user,
- 2) print the contents of the stack,
- 3) remove two values from the stack and print them,
- 4) print the top number,
- 5) print the number of values on the stack if it is nonempty, or an appropriate message otherwise,
- 6) clear the stack.