University of Massachusetts Dartmouth
Department of Electrical and Computer Engineering

ECE 161 — Submit name: stack.cpp
Project 4 — Due: http://ece161.viall.org

Design and implement a program which allows a user to "push" and "pop" integers onto or off of a stack. Your program should have a stack size of STKSIZE items that should be set to 5. The program should display a set of concise instructions telling how to use the program. The user will enter a number to indicate what command action to take. Then additional information should be requested by the program (in the case of a push) or provided by the program (in the case of a pop. Your program must detect stack full and stack empty conditions and display an appropriate error message. After each push or pop the contents of the stack should be displayed, starting with the top of the stack (the last thing pushed). If the stack is empty, your program should report that to the user. Lastly, your program should check for invalid commands, and report such to the user.

Example (user input underlined)

```
Welcome to the Stack program
Program commands:
  0 - exit
  1 - push
  2 - pop

Command: 1
   Item: 154
  Stack= 154

Command: 2
 Popped= 154
  Stack= Empty

Command: 2
 Popped= *ERROR* Stack Empty
  Stack= Empty

Command: 1
   Item: 54
  Stack= 54

Command: 1
   Item: 29
  Stack= 29 54

Command: 1
   Item: 93
  Stack= 93 29 54

Command: 4
   Item: *ERROR* Invalid Cmd
  Stack= 93 29 54

Command: 1
   Item: 4
  Stack= 4 93 29 54

Command: 2
 Popped= 4
  Stack= 93 29 54

Command: 1
   Item: 72
  Stack= 72 93 29 54

Command: 1
   Item: 13
  Stack= 13 72 93 29 54

Command: 1
   Item: *ERROR* Stack Full
  Stack= 13 72 93 29 54

Command: 0
[Exit]
```