

# Stack Solutions

# Stack

- Describe the stack data structure
  - A stack is a data structure in which elements are removed in the reverse order in which they were added
- How are elements added to a stack, stored in it and removed from the queue?
  - Elements are added at the top of the stack
  - As elements are added, the other elements are moved down
  - Elements are removed from the top of the stack
  - As elements are removed, the other elements are moved up

# Stack Operations

- Give some examples of operations that can be performed on the C++ Standard stack
  - push, pop, top, size, empty

# Stack Example

- Write a simple program that creates a stack instance and adds some elements to it
- Print out as much information about the stack as you can
- Remove an element from the stack
- Now print out the information again

# Stack Applications

- Give an example of a programming problem where a stack would be useful
  - Parsing expressions in compilers
  - Checking for unbalanced parentheses in source code
  - Implementing "undo" functionality
  - Storing history for back/forward buttons in web browser