420-B31

# Lab 08 – The Stack ADT Answers

# Part A, Question 4

Complete the following table. Recall that the Object State for a stack should include the size, top and contents of the stack.

|  |  |  |
| --- | --- | --- |
| Method | Object State | Return value |
| Stack <String> s =  new ListStack<String> (); | Size = 0  Top = null | An empty Stack |
| s.push("C"); | S=1  Top = C |  |
| s.push("A"); | S=2  Top = A  Content = C |  |
| s.push("M"); | S=3  Top = M  Content =A C |  |
| s.peek(); | S=3  Top = M  Content = AC | M |
| s.pop(); | S = 2  Top = A  Content = C | M |
| s.peek(); |  | C |
| s.isEmpty(); | S | False |
| s.pop(); | Size = 1  Top = C | A |
| s.pop(); |  | C |
| s.peek(); |  | Exception  Empty Stack Exception |
| s.isEmpty(); |  | True |