**AC12001**

Name: …Miklos Mayer………………………………………………………………………..

Matric number: …190017778 …………………………………………………….……….

Lab Title: …AC12001 assignment 1: Stacks………………………………..……….

Test number/date/version: 03/02/20 ……………………………………….……..

Test Notes: …Tests run on submitted assignment ……………………………

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Description** | **Test Data** | **Expected result** | **Worked?** |
| Add one node to a list | 55 | Code completes, node is outputted with correct data (55). | Y |
| Add multiple nodes to a list beginning | 55, 8, -89.6897 | Code completes, node is outputted with correct data (-89.6897, 8, 55). | Y |
| Check if a list is empty | none | true | Y |
| Delete from start of a list | 55, 8, -89.6897 | Code completes, node is outputted with correct data (8, 55). | Y |
| Delete from start of an empty list | none | Nothing happens | Y |
| Push one node onto an empty stack. | 55 | Code completes, node is outputted with correct data (55). | Y |
| Push multiple nodes to a stack | Three items pushed on stack [55, 8, -89.6897] | Code completes, node is outputted with correct data (-89.6897, 8, 55). | Y |
| Check if the stack is empty | none | true | Y |
| Pop node from a not empty stack | Three items pushed on stack than popped once [55, 8, -89.6897] | Code completes, node is outputted with correct data (8, 55). | Y |
| Pop node from an empty stack | none | Throws empty stack exception | Y |
| RPN with empty expression | none | Throws RPN invalid format error. |  |
| RPN addition | 4 6 + | 10 | Y |
| RPN with negative number | 4 -6 + | -2 | Y |
| RPN calculation with too many numbers | 4 6 2 + | Outputs error as stack is not empty after answer is popped | Y |
| RPN calculation with too few numbers | 4 + | Outputs RPN invalid format error. | Y |
| RPN subtraction with positive result | 6 4 - | 2 | Y |
| RPN subtraction with negative result | 4 6 - | -2 | Y |
| RPN multiplication | 4 6 \* | 24 | Y |
| RPN calculation with missing space before operator | 4 6+ | Outputs RPN invalid format error. | Y |
| RPN calculation with expression ending with a number | 15 7 1 1 + − / 3 × 2 1 1 + + − 5 | Outputs RPN invalid format error. | Y |
| RPN dividing with whole number result | 6 3 / | 2 | Y |
| RPN dividing with not whole number result | 3 6 / | 0.5 | Y |
| RPN dividing with 0 | 6 0 / | Outputs error because dividing with 0 | Y |
| RPN calculation with invalid operation character | 4 6 @ | Outputs RPN invalid format error. | Y |
| RPN complex calculation with whole numbers | 15 7 1 1 + − / 3 × 2 1 1 + + − | 5 | Y |
| RPN complex calculation with not whole numbers | 15 7 1 4 + − / 3 × 2 1 1 + + − | 18.5 | Y |
| RPN complex calculation with negative numbers | 15 7 1 1 + − / 3 × 2 1 -1 + + − | 7 | Y |
| RPN complex calculation with dividing 0 | 15 7 1 6 + − / 3 × 2 1 1 + + − | Outputs error because dividing with 0 | Y |
| RPN complex calculation with too much numbers | 15 7 1 1 + − / 3 × 2 1 1 1 + + − | Outputs error as stack is not empty after answer is popped | Y |
| RPN complex calculation with too few numbers | 15 7 1 1 + − / 3 × 2 1 + + − | Outputs RPN invalid format error. | Y |

Edge cases:

* Add
* Subtract
* Multiply
* Complex
* Missing space character
* Dividing by zero
* Not ending with operator
* Invalid character
* Negative numbers
* Too much number left in stack
* Too few number in stack