**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?** |
| *Push node onto an empty stack, then print node.* | number = 55 | Code completes, node is outputted with correct data (55). |  |
| *Push multiple nodes to a stack* | Three items pushed on stack [55, 8, -89.6897] | Code completes, node is outputted with correct data (55, 8, -89.6897). |  |
| *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 (55, 8). |  |
| *Pop node from an empty stack* | none | Outputs empty stack message |  |
| *RPN addition* | 4 6 + | 10 |  |
| *RPN calculation with too many numbers* | 4 6 2 + | Outputs error as stack is not empty after answer is popped |  |
| *RPN calculation with too few numbers* | 4 + | Outputs RPN invalid format error. |  |
| *RPN subtraction with positive result* | 6 4 - | 2 |  |
| *RPN subtraction with negative result* | 4 6 - | -2 |  |
| *RPN multiplication* | 4 6 \* | 20 |  |
| *RPN calculation with missing space* | 4 6+ | Outputs RPN invalid format error. |  |
| *RPN calculation with expression ending with a number* | 15 7 1 1 + − ÷ 3 × 2 1 1 + + − 5 | Outputs RPN invalid format error. |  |
| *RPN dividing with whole number result* | 6 3 / | 2 |  |
| *RPN dividing with not whole number result* | 3 6 / | 0.5 |  |
| *RPN dividing with 0* | 6 0 / | Outputs error because dividing with 0 |  |
| *RPN calculation with invalid operation character* | 4 6 @ | Outputs RPN invalid format error. |  |
| *RPN complex calculation with whole numbers* | 15 7 1 1 + − ÷ 3 × 2 1 1 + + − | 5 |  |
| *RPN complex calculation with not whole numbers* | 15 7 1 4 + − ÷ 3 × 2 1 1 + + − | 18.5 |  |
| *RPN complex calculation with dividing 0* | 15 7 1 6 + − ÷ 3 × 2 1 1 + + − | Outputs error because dividing with 0 |  |
| *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 |  |
| *RPN complex calculation with too few numbers* | 15 7 1 1 + − ÷ 3 × 2 1 + + − | Outputs RPN invalid format error. |  |

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