|  |  |
| --- | --- |
| **Precedence Level** | **Operators(s)** |
| 1 (*Lowest Priority*) | +,- |
| 2 | \*,/ |
| 3 | ^ |
| 4 (*Highest Priority*) | - (unary) |

Steven Tardo

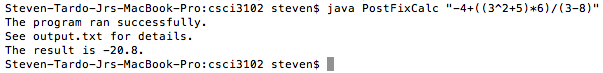
CSCI 3102

Programming Assignment 1

November 11, 2014

**Modified Table #1 Incuding ‘^’ Operator**

**Screenshot of program execution:**

****

**Contents of output.txt for input “-4+((3^2+5)\*6)/(3-8)”:**

Infix to Postfix Steps:

Infix: -4+((3^2+5)\*6)/(3-8)$

Stack: [#]

Postfix: -4

Infix: -4+((3^2+5)\*6)/(3-8)$

Stack: [#, +]

Postfix: -4

Infix: -4+((3^2+5)\*6)/(3-8)$

Stack: [#, +, (, (]

Postfix: -43

Infix: -4+((3^2+5)\*6)/(3-8)$

Stack: [#, +, (, (, ^]

Postfix: -43

Infix: -4+((3^2+5)\*6)/(3-8)$

Stack: [#, +, (, (, ^]

Postfix: -432

Infix: -4+((3^2+5)\*6)/(3-8)$

Stack: [#, +, (, (, +]

Postfix: -432^

Infix: -4+((3^2+5)\*6)/(3-8)$

Stack: [#, +, (, (, +]

Postfix: -432^5

Infix: -4+((3^2+5)\*6)/(3-8)$

Stack: [#, +, (, \*]

Postfix: -432^5+

Infix: -4+((3^2+5)\*6)/(3-8)$

Stack: [#, +, (, \*]

Postfix: -432^5+6

Infix: -4+((3^2+5)\*6)/(3-8)$

Stack: [#, +, /]

Postfix: -432^5+6\*

Infix: -4+((3^2+5)\*6)/(3-8)$

Stack: [#, +, /, (]

Postfix: -432^5+6\*3

Infix: -4+((3^2+5)\*6)/(3-8)$

Stack: [#, +, /, (, -]

Postfix: -432^5+6\*3

Infix: -4+((3^2+5)\*6)/(3-8)$

Stack: [#, +, /, (, -]

Postfix: -432^5+6\*38

Infix: -4+((3^2+5)\*6)/(3-8)$

Stack: [#]

Postfix: -432^5+6\*38-/+

Postfix Evaluation:

Postfix: -432^5+6\*38-/+$

Stack: [#, -4, 3]

Postfix: -432^5+6\*38-/+$

Stack: [#, -4, 3, 2]

Postfix: -432^5+6\*38-/+$

Stack: [#, -4, 9.0]

Postfix: -432^5+6\*38-/+$

Stack: [#, -4, 9.0, 5]

Postfix: -432^5+6\*38-/+$

Stack: [#, -4, 14.0]

Postfix: -432^5+6\*38-/+$

Stack: [#, -4, 14.0, 6]

Postfix: -432^5+6\*38-/+$

Stack: [#, -4, 84.0]

Postfix: -432^5+6\*38-/+$

Stack: [#, -4, 84.0, 3]

Postfix: -432^5+6\*38-/+$

Stack: [#, -4, 84.0, 3, 8]

Postfix: -432^5+6\*38-/+$

Stack: [#, -4, 84.0, -5.0]

Postfix: -432^5+6\*38-/+$

Stack: [#, -4, -16.8]

Postfix: -432^5+6\*38-/+$

Stack: [#, -20.8]

Result: -20.8