Comp Sci 1MD3 – Lab 1

1. 3\*\*2 = 9

2\*\*2\*\*3 = 256

2\*\*3\*\*2\*\*2 = 2417851639229258349412352

Given these results, exponentiation in Python is right associative because 2\*\*(3\*\*(2\*\*2)) produces the same answer as 2\*\*3\*\*2\*\*2, whereas ((2\*\*3)\*\*2)\*\*2 produces 4096.

1. Exponentiation binds tighter than multiplication; 2\*3\*\*4 = 2\*(3\*\*4) = 162, but (2\*3)\*\*4 results in 1296.
2. a = 4, b = 8, c = 7

s = (a+b+c)/2

A = (s\*(s-a)\*(s-b)\*(s-c))\*\*(0.5)

1. Euclid’s algorithm produces the lowest common denominator of two positive integers, which is also a positive integer.
2. C:\Downloads\Heron's square root method.pngIf the square root of a number N is n, and one divides N by n to produce a quotient X, then the average of X and n is an estimate of the real square root of N, which can be repeated to produce more a more accurate result.

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| --- | --- | --- |
| **INSTRUCTION** | **U VALUE** | **V VALUE** |
| 1 | 117 | 63 |
| 2.1 | 54 | 63 |
| 2.2 | 54 | 9 |
| 2.1 | 45 | 9 |
| 2.1 | 36 | 9 |
| 2.1 | 27 | 9 |
| 2.1 | 18 | 9 |
| 2.1 | 9 | 9 |

1. a)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ASSIGNMENT** | **ITERATION** | **Min VALUE** | **Max VALUE** | **i VALUE** |
| A | 0 | 1 | 1 | 1 |
| C, D | 1 | 1 | 9 | 2 |
| D | 2 | 1 | 9 | 3 |
| D | 3 | 1 | 9 | 4 |
| ------------------ | 4 | 1 | 9 | 4 |

b) There are a total of two assignments to the max and min: when the variables are all initialized in A, and then when max is assigned to 9 in C.

c) In the best case scenario, there would be only one assignments to max and min; this would be when all temperatures are 1 since it would not be necessary to reassign max and min





