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Numerical Computing: Homework 3

Due on February 21, 2012

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1. Exercise 3.1

1.a. Compute $y = x^0$ when:

1.a.i.

$0^0 = 1$. In hex:
$0000000000000000^{0000000000000000} = 3ff0000000000000$, which makes sense, since $x^0 = 1$.
b. $inf^0 = 1$. In hex:
$7ff0000000000000^{0000000000000000} = 3ff0000000000000$, which makes sense by the same logic.
c. $NaN^0 = 1$. In hex:
$7ff8000000000000^{0000000000000000} = 3ff0000000000000$, which is the same.
Conceptually, this rule makes sense to me if I think of x^y as $1 * x_1 * x_2 * \cdots * x_y$. If $y = 0$, $x^y = 1$.

1.b. Do the same for: