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CS 205 - HW 2
10/12/12

Problem 2

$f(n)$	$O(g(n))$	$g(8)$	$g(64)$
12	1	1	1
$(n^{\frac{1}{6}} + n^{\frac{1}{12}})(n^{\frac{1}{6}} + 1)$	$n^{\frac{1}{3}}$	2	4
$\log_2 n^2$	$\log_2 n$	3	6
$\sqrt{n}$, $\sqrt{2}^{\log_2 n}$	$\sqrt{n}$	$2\sqrt{2}$	8
$(\log_2 n)^2$	$(\log_2 n)^2$	9	36
$\log_2 4^n$	n	8	64
$n \log_{10} n$	$n \log_{10} n$	7.225	115.60
n^2, $4 \log_2 n$	n^2	64	4096
n^e	n^e	285.01	81228.08
1.001^n, $\left(\frac{3}{2}\right)^n$, 2^n, e^n	e^n	2980.96	6.24×10^27

Table 1: Ranked Functions