The Question in question:

12. What is the correct ordering of growth rates for the following functions:
   • $f(n) = n^{0.9} \log n$
   • $g(n) = 1.1^n$
   • $h(n) = 9.9n$
   
   (A) $g < f < h$
   (B) $g < h < f$
   (C) $h < f < g$
   (D) $f < g < h$
   (E) $f < h < g$
   (F) $h < g < f$

   I understand it this way:
   $f(n) = n \log n$
   $g(n) = 2^n$
   $h(n) = n$

   Which would yield the answer of $h < f < g$, but according to some reliable sources, the correct answer is $f < h < g$.
   I cannot, for the life of me, figure out why? Want to help me?

Subject: Re: Question #12: Order Notation
Posted by smmitchell2 on Tue, 24 Jan 2017 03:23:32 GMT

n^0.9 logn is just n^0.9 because log n grows so slowly that n grows faster. So the answer is $f < h < g$

Subject: Re: Question #12: Order Notation
Posted by bmbaker1 on Tue, 24 Jan 2017 03:30:54 GMT

That makes sense... Thank you!