Subject: Concept Review: Recurrences (Part 4)
Posted by davidmccoy on Fri, 17 Feb 2017 16:58:40 GMT

This thread is part of the proposed schedule for study for the first exam. Discuss the practice problems here.
View questions here: http://beastie.cs.ua.edu/concepts/cs/al/recurrences.html
This thread covers questions 106-136 of recurrences.

Work together on the proposed answers to questions on this shared Google Doc (comment reasoning/arguments behind answers)

Subject: Re: Concept Review: Recurrences (Part 4)
Posted by Witherspoon on Mon, 20 Feb 2017 02:01:41 GMT

For this question, I saw on the Google doc that someone answered 1/7 as the smallest listed value for c.

Why would it not be 1/9 instead? Any input is greatly appreciated.

Happy studying everyone!

Subject: Re: Concept Review: Recurrences (Part 4)
Posted by SSinischo on Mon, 20 Feb 2017 03:38:26 GMT

The regularity condition is \( af(n/b) \leq cf(n) \).

\[
a=8, \ b=8, \ f(n)=n^2
\]

\[
8f(n/8) \leq cf(n)
\]

\[
8n^2/64 \leq cn^2
\]

\[
n^2/8 \leq cn^2
\]

So \( c \geq 1/8 \).