

Re: pumping lemma for CFL

Source: <http://sci.tech-archive.net/Archive/sci.math/2005-11/msg00457.html>

- *From:* "robm" <robm@xxxxxxxx>
 - *Date:* Wed, 02 Nov 2005 21:30:38 GMT
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"Robert Low" <mtx014@xxxxxxxxxxxxxxxx> wrote in message
news:3s3ls2FpromiU1@xxxxxxxxxxxxxxxx
> robm wrote:
>> "Robert Low" <mtx014@xxxxxxxxxxxxxxxx> wrote in message
>> The pumping
>>> lemma for context free languages ...
>>> says that [if] L is context free, there [should have been then]
>>> there is some number
>>> p such that a string longer than p is uvwxy where |vwx|
>>> is no longer than p, and v and x can be repeated as many times
>>> as you want and the result is in L.
>>>
>>> Note that v and x must both be repeated the same number
>>> of times: you know that uvvwxy and uvvwxxxy are in L,
>>> but you don't know about uvvwxxxy.
>>
>> which underscores my difficulty in trying to intuit from what i am
reading
>
> I like Sipser's book 'Introduction to the theory of computation'.
> Very clearly explained, without getting bogged down in technical
> detail. If you can get at a copy, it might help.
>

Thanks for taking time to reply

i am looking at Hopcraft Ullman Sudkamp books at present

I look for Sipser

>
> There are also web resources, such as
>
> http://en.wikipedia.org/wiki/Pumping_lemma
>
> but I don't know how helpful you'll find them.
>
> In my mind the *essence* of the pumping lemmas is

Re: pumping lemma for CFL

- > that a long enough string in a simple enough language
- > has a segment that can be repeated arbitrarily often
- > while remaining in the language. In the regular
- > case, it's a single segment, and in the context free
- > case the segment may be broken by a bit in the
- > middle that doesn't get repeated.
- >
- > Whether my intuitive picture will help you is hard to
- > say: but you're welcome to try it on for size.

This is the kind of description i am looking for , i suppose in reading this i can see how one might derive this from the more formal definitions but understanding the formal definitions and significance for purpose of developing an intuition well thats no so easy (for me)

thanks again for time to respond explain

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• *References:*

- ◆ *pumping lemma for CFL*
◇ *From: robm*
 - ◆ *Re: pumping lemma for CFL*
◇ *From: Brian*
 - ◆ *Re: pumping lemma for CFL*
◇ *From: Robert Low*
 - ◆ *Re: pumping lemma for CFL*
◇ *From: robm*
 - ◆ *Re: pumping lemma for CFL*
◇ *From: Robert Low*
-
- Prev by Date: *Re: What is the approximating density of this sequence?*
 - Next by Date: *Re: prove it if you can*
 - Previous by thread: *Re: pumping lemma for CFL*
 - Next by thread: *Re: pumping lemma for CFL (thanks to all 4 Help)*
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