

Eric Rothman Paragraph.

I shall be talking about python. I'm pretty sure that it is not a context-free grammar. If you look at the example of  $5 + 5$  in the program, instead of being put to 3 different states, it leads to the answer of 10. This is different depending on what the two numbers to the sides of the addition is, so the context of the addition mark is taken into consideration when it comes to the output of the addition expression. At the same time though, python and most programming languages, as far as I can tell, are initially parsed as context free. The program constructs the definition and shape of the expressions in the program symbol by symbol. But even this is not fully context free since there are key words. So, the letter p could be a variable, or it could be the first part of the key word print. So, even in the initially parsing step, python is not fully context free. For arithmetic though, it usually is context free, as in each symbol is usually processed 1 at a time when it comes to initially reading arithmetic functions.