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Programming Assignment 3

For this assignment we were tasked to implement a calculator program using yacc and lex. The calculator processes expressions until it encounters EOF or invalid syntax. The calculator prints the result after each expression. I started this project by learning the lex and yacc languages. Next I examined the example lex and yacc files that were provided in the project starter folder. After getting comfortable with lex and yacc, I started implementing the calculator program. I used the stdout to examine the behavior of my program and match the desired output style. I used the ref_cexpr file to determine the desired behavior of the calculator on a particular input. I later tested my calculator program against ref_cexpr by feeding it input.txt file. The input.txt file contained a series of math expressions. Please look at figure 1 to examine the input.txt file I used to test my program. The most difficult part of this assignment was getting used to lex and yacc. Additionally, it was hard to implement precedence in yacc. Once I was able to solve these problems, the assignment was pretty straightforward afterwards.

```
a = 55-3;
b = c = a-42;
a+b*c;
c = 6;
a = b;
a = 10000;
b = 100000;
a*b;
a*b*10;
c/d;
d/c;
a=1;
a&1;
a|1;
a^5;
a<<1;
a>>1;
-a;
~a;
a*=2;
a/=2;
a+=1;
a-=1;
a&=3;
a|=3;
a^=1;
a<<=1;
a>>=1;
a;
```

Figure1: input.txt