

Wesley Kepke
CS 460 – Compiler Construction – Dr. Fred Harris
PA4 – Calculator Yacc (Bison) File

- This screen-shot shows various input to my calculator program. Much of the input has whitespace; this demonstrates that my program is not affected by whitespace and can compute values as expected. Moreover, the last line shows an invalid input.

```
wesley@wesley-XPS-L521X: ~/Documents/cs460/PA4
bison -d calc.y
flex calc.l
g++ -c -o lex.yy.o lex.yy.c
g++ -c -o calc.tab.o calc.tab.c
g++ -o calc lex.yy.o calc.tab.o -L/usr/local/lib -lfl
wesley@wesley-XPS-L521X:~/Documents/cs460/PA4$ ls
calc  calc.l  calc.tab.c  calc.tab.h  calc.tab.o  calc.y  lex.yy.c  lex.yy.o  makefile
wesley@wesley-XPS-L521X:~/Documents/cs460/PA4$ ./calc
1 + 23;
>> Result: 24
99 - 312;
>> Result: -213
100 / 3;
>> Result: 33
3* 7;
>> Result: 21
2*(3+2);
>> Result: 10
(50/2)+(11-7) * 3;
>> Result: 37
((50/2)+(11-7)) * 3;
>> Result: 87
3 + a;
-----^
Error on line #8: syntax error
wesley@wesley-XPS-L521X:~/Documents/cs460/PA4$ _
```

- This screen-shot shows some syntax errors and the message that appears when each is encountered. I've included a carrot symbol under the token that caused the error.

```
wesley@wesley-XPS-L521X: ~/Documents/cs460/PA4
bison -d calc.y
flex calc.l
g++ -c -o lex.yy.o lex.yy.c
g++ -c -o calc.tab.o calc.tab.c
g++ -o calc lex.yy.o calc.tab.o -L/usr/local/lib -lfl
wesley@wesley-XPS-L521X:~/Documents/cs460/PA4$ ./calc
3 + a;
-----^
Error on line #1: syntax error
wesley@wesley-XPS-L521X:~/Documents/cs460/PA4$ ./calc
3 + 2 + a;
-----^
Error on line #1: syntax error
wesley@wesley-XPS-L521X:~/Documents/cs460/PA4$ ./calc
3 / 3 + 1 - 8 * 2 / a;
-----^
Error on line #1: syntax error
wesley@wesley-XPS-L521X:~/Documents/cs460/PA4$ _
```

- ```
wesley@wesley-XPS-L521X: ~/Documents/cs460/PA4
bison -d calc.y
flex calc.l
g++ -c -o lex.yy.o lex.yy.c
g++ -c -o calc.tab.o calc.tab.c
g++ -o calc lex.yy.o calc.tab.o -L/usr/local/lib -lfl
wesley@wesley-XPS-L521X:~/Documents/cs460/PA4$./calc
2 * 999999999999999999999999;
-----^
Error on line #1: Integer out of range.
wesley@wesley-XPS-L521X:~/Documents/cs460/PA4$./calc
42 / 0;
-----^
Error on line #1: Division by 0.
wesley@wesley-XPS-L521X:~/Documents/cs460/PA4$./calc
2147483646 + 2147483646;
-----^
Error on line #1: Integer out of range.
wesley@wesley-XPS-L521X:~/Documents/cs460/PA4$ _
```