

- a) Show that if you define more than the MAX number of variables, then you error:

```
mcgovern@Christian-PC: /mnt/c/Users/Christian/Desktop/Google_Drive/Course-Work/NMSU-Compilers and Automata Theory/lab4
mcgovern@Christian-PC: /mnt/c/Users/Christian/Desktop/Google_Drive/Course-Work/NMSU-Compilers and Automata Theory/lab4$ clear
mcgovern@Christian-PC: /mnt/c/Users/Christian/Desktop/Google_Drive/Course-Work/NMSU-Compilers and Automata Theory/lab4$ ./lab4
int v1;
int found
Whitespace found
Variable found
return a semicolon ;
carriage return

int v2;
int found
Whitespace found
Variable found
Error line 2: no more register space
return a semicolon ;
carriage return
```

- b) Show that you cannot declare a variable more than once

```
mcgovern@Christian-PC: /mnt/c/Users/Christian/Desktop/Google_Drive/Course-Work/NMSU-Compilers and Automata Theory/lab4
mcgovern@Christian-PC: /mnt/c/Users/Christian/Desktop/Google_Drive/Course-Work/NMSU-Compilers and Automata Theory/lab4$ clear
mcgovern@Christian-PC: /mnt/c/Users/Christian/Desktop/Google_Drive/Course-Work/NMSU-Compilers and Automata Theory/lab4$ ./lab4
int v1;
int found
Whitespace found
Variable found
return a semicolon ;
carriage return

int v1;
int found
Whitespace found
Variable found
Error line 2: Symbol v1 already defined
return a semicolon ;
carriage return
```

- c) Show that you cannot use a variable that is not defined

```
mcgovern@Christian-PC: /mnt/c/Users/Christian/Desktop/Google_Drive/Course-Work/NMSU-Compilers and Automata Theory/lab4
mcgovern@Christian-PC: /mnt/c/Users/Christian/Desktop/Google_Drive/Course-Work/NMSU-Compilers and Automata Theory/lab4$ ./lab4
v1 = 5
Variable found
Whitespace found
return a token =
Variable v1 on line 1 not defined
Whitespace found
Digit found
found an integer
carriage return
```

- d) Show that a declared variable can be set and used (left and right hand side).

```
mcgovern@Christian: /mnt/c/Users/Christian/Desktop/Google_Drive/Course-Work/NMSU-Compilers and Automata Theory/lab4$  
mcgovern@Christian:/mnt/c/Users/Christian/Desktop/Google_Drive/Course-Work/NMSU-Compilers and Automata Theory/lab4$ make  
lex lab4docalc.l  
yacc lab4docalc.y -d  
gcc y.tab.c symtable.c -o lab4  
mcgovern@Christian:/mnt/c/Users/Christian/Desktop/Google_Drive/Course-Work/NMSU-Compilers and Automata Theory/lab4$ ./lab4  
int v1;  
int found  
Whitespace found  
Variable found  
return a semicolon ;  
carriage return  
  
int v2;  
int found  
Whitespace found  
Variable found  
return a semicolon ;  
carriage return  
  
v1 = 5  
Variable found  
Whitespace found  
return a token =  
Variable v1 on line 3 defined  
Whitespace found  
Digit found  
found an integer  
carriage return  
  
v2 = v1 + 5  
Variable found  
Whitespace found  
return a token =  
Variable v2 on line 4 defined  
Whitespace found  
Variable found  
Whitespace found  
return a token +  
Whitespace found  
Digit found  
found an integer  
carriage return  
  
v2  
Variable found  
carriage return  
  
the answer is 10  
2  
[5] + Stopped ./lab4
```