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CS370
Lab4

PDF file of screenshot to test the case requirement.

- a) Show that if you define more than the MAX number of variables, then you error: I set my max number of variables to 4.

```
nle@trannew:~/CS370/lab4> make
make: Nothing to be done for 'all'.
nle@trannew:~/CS370/lab4> make run
./lab4          #run lab4
[
int numbeOne;

    The symbol inserted
[
int numberTwo;

    The symbol inserted
[
int numberThree;

    The symbol inserted
[
int numberFour;

    The symbol inserted
[
int numberFive;
Registers are full, reached maximum limit
```

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

```
make: Nothing to be done for 'all'.
nle@trannew:~/CS370/lab4> make run
./lab4          #run lab4
[
int a;

    The symbol inserted
[
int a;
Variable already in the table
[
int b;

    The symbol inserted
[
int b;
Variable already in the table
█
```

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

```
nle@trannew:~/CS370/lab4> make
make: Nothing to be done for 'all'.
nle@trannew:~/CS370/lab4> make run
./lab4      #run lab4
int a;

    The symbol inserted
int b;

    The symbol inserted
a = 100
variable has been assigned
b = 10000
variable has been assigned
c = 100 + 1000
variable has been assigned
variable has been assigned
symbol c has not been declared
```

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

```
nle@trannew:~/CS370/lab4> make
make: Nothing to be done for 'all'.
nle@trannew:~/CS370/lab4> make run
./lab4      #run lab4
int a;

    The symbol inserted
int b;

    The symbol inserted
int c;

    The symbol inserted
int d;

    The symbol inserted
a = 28;
variable has been assigned

syntax error
b = 25;
variable has been assigned

syntax error
c = 21;
variable has been assigned

syntax error
d = a + b + c
found variable: a in Symbol Table, with address of 0, with a value 28
found variable: b in Symbol Table, with address of 1, with a value 25
found variable: c in Symbol Table, with address of 2, with a value 21
d
found variable: d in Symbol Table, with address of 3, with a value 74
d = a+b+c-51
found variable: a in Symbol Table, with address of 0, with a value 28
found variable: b in Symbol Table, with address of 1, with a value 25
found variable: c in Symbol Table, with address of 2, with a value 21
variable has been assigned

d
found variable: d in Symbol Table, with address of 3, with a value 23
```

e) This screenshot is a test case for test file in step 5.

```
nle@trannew:~/CS370/lab4> make
make: Nothing to be done for 'all'.
nle@trannew:~/CS370/lab4> make run
./lab4          #run lab4
^Cmake: *** [makefile:17: run] Interrupt

nle@trannew:~/CS370/lab4> ./lab4 <testfile

    The symbol inserted

    The symbol inserted

    The symbol inserted
variable has been assigned

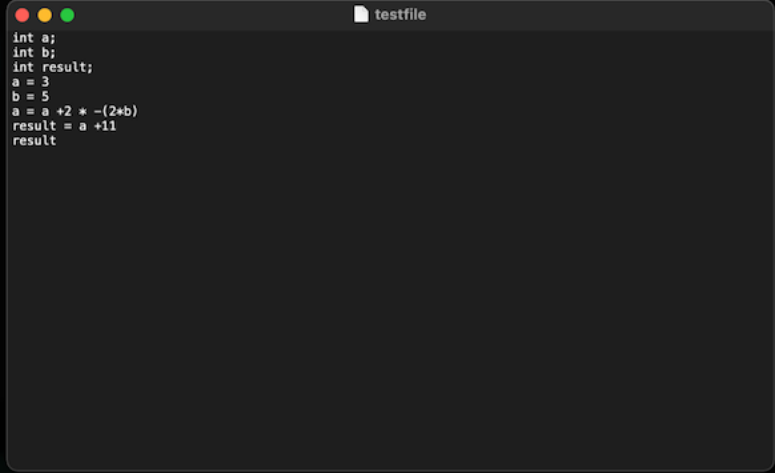
variable has been assigned

found variable: a in Symbol Table, with address of 0, with a value 3
variable has been assigned

variable has been assigned

found variable: b in Symbol Table, with address of 1, with a value 5
found variable: a in Symbol Table, with address of 0, with a value -17
variable has been assigned

found variable: result in Symbol Table, with address of 2, with a value -6
syntax error
nle@trannew:~/CS370/lab4> 
```



```
int a;
int b;
int result;
a = 3
b = 5
a = a +2 * -(2*b)
result = a +11
result
```