

# Lab 4 Test Cases

## Test Case #1:

The following code shows that you cannot declare more than MAX number of variables. In this case, MAX is defined to be two for ease of showing that this functionality works.

Program was run on the following code:

```
int x;  
int y;  
int z;
```

```
Label inserted  
  
NAME      OFFSET  
x         0  
y         1  
int z;  
int found  
Whitespace found  
Variable found: z  
return a token ;  
carriage return  
  
declaration found  
Max number of variable declarations has been reached
```

## Test Case #2:

The following code shows that you cannot declare a variable more than once.

Program was run on the following code:

```
int x;  
int x;
```

```
Label inserted  
  
NAME      OFFSET  
x         0  
int x;  
int found  
Whitespace found  
Variable found: x  
return a token ;  
carriage return  
  
declaration found  
Error: variable already exists, error on line 3
```

### Test case #3:

The following code shows that you cannot assign a value to a variable that has not been declared

Program was run on the following code:

```
int x;  
y = 5
```

```
Label inserted  
  
NAME      OFFSET  
x         0  
y = 5  
Variable found: y  
Whitespace found  
return a token =  
Whitespace found  
Digit found  
found an integer  
carriage return  
  
Cannot assign a value to a nonexistent variable, error on line 3
```

#### Test case #4:

The following code shows that variables can be assigned values and can be used in calculations.

Program was run on the following code:

```
int count;  
int x;  
count = 1+(2*3)  
x = 2  
count + x;
```

```
found a variable value: count = 7
```

NAME	OFFSET
count	0
x	1

```
Whitespace found
```

```
Variable found: x
```

```
found a variable value: x = 2
```

NAME	OFFSET
count	0
x	1

```
carriage return
```

```
the answer is 9
```