



# CS 370 Compilers

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## Overview

In this project we are combining and extending the symbol table utilities we built and the calculator we built in order to create basic data types and more sophisticated syntax.

## To run code

- to build run:

```
make
```

- to test the code with the testinput.txt file run:

```
make test
```

- to clean the generated files

```
make clean
```

## Screenshots

1. Symbol table is full

```
zarafat@brooks:~/Documents/src/CS370/LAB4> ./lab4
int testa;

    Label inserted
int testb;

    Label inserted
int testc;

    Label inserted
int testd;

    Label inserted
int teste;

    Label inserted
int testf;
The table is full
```

2. The variable already exists

```
zarafat@brooks:~/Documents/src/CS370/LAB4> ./lab4
int testa;

    Label inserted
int testa;
The variable exists already
```

3. The variable doesn't exist

```
zarafat@brooks:~/Documents/src/CS370/LAB4> ./lab4
int testa;

    Label inserted
int testb;

    Label inserted
testc
Undefined variable testc
The answer is 0
testc + testa
Undefined variable testc
The answer is 0
testa + testc
Undefined variable testc
The answer is 0
testc = 8
found an integer
Undefined variable
```

#### 4. Left and right assignment usage test

```
zarafat@brooks:~/Documents/src/CS370/LAB4> ./lab4
int testa;
```

```
    Label inserted
int testb;
```

```
    Label inserted
```

```
testa = 5
found an integer
testb = 6
found an integer
testa + testb
The answer is 11
5 + testa
found an integer
The answer is 10
testa + 5
found an integer
The answer is 10
testa + 6
found an integer
The answer is 11
6 + testa
found an integer
The answer is 11
6 + testa + testb + 6
found an integer
found an integer
The answer is 23
█
```