Lab 5 Output

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CS370 - Compilers and Automata

The program was run with a test file with the following contents. Note that the contents of this file test variable declaration, function declaration, *, and, or, <, >, <=, >=, !=, ==, =, selection statements, iteration statements, return statements, read statements, and write statements.

```
int x, y, z[20];
int main(void)
begin
      y = x * y;
      y and x;
      y or x;
      y < x;
      y > x;
      y <= x;
      y >= x;
      y != x;
      y == x;
      y = x;

      if( foo( a, b ) )
      then return;
      else x = x - (y*3) + (z/2);

      while( x < 500 )
      do x = x+ 1;

      return 123;

      read x;

      write x;
end
```

This is the output displaying the constants in the program:

```
cs370/Lab5> make
yacc -d lab5.y
lab5.y: warning: 1 shift/reduce conflict [-Wconflicts-sr]
lex lab5.l
gcc y.tab.c lex.yy.c -o lab5
cs370/Lab5> ./lab5 < mygoodtest
ID found: x
ID found: y
ID found: z
Number found: 20
ID found: main
ID found: y
ID found: x
ID found: y
ID found: y
ID found: x
ID found: y
ID found: x
ID found: y
ID found: x
ID found: y
ID found: x
ID found: y
ID found: x
ID found: y
ID found: x
ID found: y
ID found: x
ID found: y
ID found: x
ID found: y
ID found: x
ID found: foo
ID found: a
ID found: b
ID found: x
ID found: x
ID found: y
Number found: 3
ID found: z
Number found: 2
ID found: x
Number found: 500
ID found: x
ID found: x
Number found: 1
Number found: 123
ID found: x
ID found: x
The program is syntactically correct.
cs370/Lab5>
```

The following code was also tested. Most of the contents are the same as the first test except for an incomplete expression within the while statement.

```
int x, y, z[20];
int main(void)
begin
      y = x * y;
      y and x;
      y or x;
      y < x;
      y > x;
      y <= x;
      y >= x;
      y != x;
      y == x;
      y = x;

      if( foo( a, b ) )
      then return;
      else x = x - (y*3) + (z/2);

      while( x <  )
      do x = x+ 1;

      return 123;

      read x;

      write x;
end
```

This is the output displaying the constants in the program:

```
cs370/Lab5> ./lab5 < mybadtest
ID found: x
ID found: y
ID found: z
Number found: 20
ID found: main
ID found: y
ID found: x
ID found: y
ID found: y
ID found: x
ID found: y
ID found: x
ID found: y
ID found: x
ID found: y
ID found: x
ID found: y
ID found: x
ID found: y
ID found: x
ID found: y
ID found: x
ID found: y
ID found: x
ID found: y
ID found: x
ID found: y
ID found: x
ID found: foo
ID found: a
ID found: b
ID found: x
ID found: x
ID found: y
Number found: 3
ID found: z
Number found: 2
ID found: x
syntax error on line 19
```

The following is the output when run on lab5goodtest.al:

```
cs370/Lab5> ./lab5 < lab5goodtest.al
ID found: A
Number found: 100
ID found: z
ID found: y
ID found: main
ID found: x
Number found: 100
ID found: x
Number found: 10
ID found: i
Number found: 10
ID found: x
ID found: i
ID found: i
ID found: x
Number found: 4
Number found: 10
ID found: i
Number found: 1
ID found: foo
ID found: foo
ID found: A
ID found: B
ID found: X
The program is syntactically correct.
```

The following is the output when run on lab5badtest.al:

```
cs370/Lab5> ./lab5 < lab5badtest.al
ID found: A
Number found: 100
ID found: main
ID found: x
Number found: 100
ID found: x
Number found: 10
ID found: i
Number found: 10
ID found: x
ID found: i
ID found: i
Number found: 0
syntax error on line 7
```