```
Successful Lex Code Block
                                                                 Log Results
{}$
                                      Beginning Lexing Session... *Stings Treated As CharList*
                                       LEXER --> | T_OPENING_BRACE [ { ] on line 1...
                                       LEXER --> | T CLOSING BRACE [ } ] on line 1...
                                       LEXER --> | T EOPS [ $ ] on line 1...
                                      Lex Completed With 0 WARNING(S) and 0 ERROR(S)...
                                      Beginning Lexing Session... *Stings Treated As CharList*
{
        print("there is no spoon")
}$
                                       LEXER --> | T OPENING BRACE [ { ] on line 1...
                                       LEXER --> | T PRINT [ print ] on line 2...
                                       LEXER --> | T_OPENING_PARENTHESIS [ ( ] on line 2...
                                       LEXER --> | T QUOTE [ " ] on line 2...
                                       LEXER --> | T CHAR [t] on line 2...
                                       LEXER --> | T CHAR [h] on line 2...
                                       LEXER --> | T_CHAR [ e ] on line 2...
                                       LEXER --> | T_CHAR [r] on line 2...
                                       LEXER --> | T_CHAR [e] on line 2...
                                       LEXER --> | T_WHITE_SPACE [ ] on line 2...
                                       LEXER --> | T_CHAR [i] on line 2...
                                       LEXER --> | T_CHAR [s] on line 2...
                                       LEXER --> | T WHITE SPACE [ ] on line 2...
                                       LEXER --> | T CHAR [ n ] on line 2...
                                       LEXER --> | T_CHAR [ o ] on line 2...
                                       LEXER --> | T WHITE SPACE [ ] on line 2...
                                       LEXER --> | T CHAR [s] on line 2...
                                       LEXER --> | T_CHAR [ p ] on line 2...
                                       LEXER --> | T_CHAR [ o ] on line 2...
                                       LEXER --> | T_CHAR [ o ] on line 2...
                                       LEXER --> | T_CHAR [ n ] on line 2...
                                       LEXER --> | T_QUOTE [ " ] on line 2...
                                       LEXER --> | T_RIGHT_PARENTHESIS [ ) ] on line 2...
                                       LEXER --> | T CLOSING BRACE [ } ] on line 3...
                                       LEXER --> | T EOPS [$] on line 3...
                                      Lex Completed With 0 WARNING(S) and 0 ERROR(S)...
{
                                      Beginning Lexing Session... *Stings Treated As CharList*
        print((false == true))
        print((true != true))
                                       LEXER --> | T_OPENING_BRACE [ { ] on line 1...
        print((false != false))
                                       LEXER --> | T PRINT [ print ] on line 2...
        print((false != true))
                                       LEXER --> | T_OPENING_PARENTHESIS [ ( ] on line 2...
}
                                       LEXER --> | T OPENING PARENTHESIS [ ( ] on line 2...
                                       LEXER --> | T BOOLEAN VALUE [ false ] on line 2...
                                       LEXER --> | T EQUALITY OP [ == ] on line 2...
                                       LEXER --> | T BOOLEAN VALUE [true] on line 2...
                                       LEXER --> | T_RIGHT_PARENTHESIS [ ) ] on line 2...
                                       LEXER --> | T RIGHT PARENTHESIS [ ) ] on line 2...
```

```
LEXER --> | T PRINT [ print ] on line 3...
                                      LEXER --> | T OPENING PARENTHESIS [ ( ] on line 3...
                                      LEXER --> | T OPENING PARENTHESIS [ ( ] on line 3...
                                      LEXER --> | T_BOOLEAN_VALUE [ true ] on line 3...
                                      LEXER --> | T INEQUALITY OP [!=] on line 3...
                                      LEXER --> | T BOOLEAN VALUE [true] on line 3...
                                      LEXER --> | T_RIGHT_PARENTHESIS [ ) ] on line 3...
                                      LEXER --> | T RIGHT PARENTHESIS [ ) ] on line 3...
                                      LEXER --> | T PRINT [ print ] on line 4...
                                      LEXER --> | T OPENING PARENTHESIS [()] on line 4...
                                      LEXER --> | T OPENING PARENTHESIS [ ( ] on line 4...
                                      LEXER --> | T BOOLEAN VALUE [ false ] on line 4...
                                      LEXER --> | T INEQUALITY OP [!=] on line 4...
                                      LEXER --> | T_BOOLEAN_VALUE [ false ] on line 4...
                                      LEXER --> | T_RIGHT_PARENTHESIS [ ) ] on line 4...
                                      LEXER --> | T_RIGHT_PARENTHESIS [ ) ] on line 4...
                                      LEXER --> | T PRINT [ print ] on line 5...
                                      LEXER --> | T_OPENING_PARENTHESIS [ ( ] on line 5...
                                      LEXER --> | T OPENING PARENTHESIS [ ( ] on line 5...
                                      LEXER --> | T BOOLEAN VALUE [ false ] on line 5...
                                      LEXER --> | T INEQUALITY OP [!=] on line 5...
                                      LEXER --> | T BOOLEAN VALUE [true] on line 5...
                                      LEXER --> | T RIGHT PARENTHESIS [ ) ] on line 5...
                                      LEXER --> | T RIGHT PARENTHESIS [ ) ] on line 5...
                                      LEXER --> | T_CLOSING_BRACE [ } ] on line 6...
                                      LEXER --> | WARNING! NO EOPS [$] detected. Added to end-of-
                                      file at line 6...
                                      Lex Completed With 1 WARNING(S) and 0 ERROR(S)...
                                      Beginning Lexing Session... *Stings Treated As CharList*
{
         int a
         int b
                                      LEXER --> | T OPENING BRACE [ { ] on line 1...
                                      LEXER --> | T_VARIABLE_TYPE [ int ] on line 2...
                                      LEXER --> | T_ID [ a ] on line 2...
         a = 0
         b = 0
                                      LEXER --> | T_VARIABLE_TYPE [ int ] on line 3...
                                      LEXER --> | T_ID [ b ] on line 3...
         while (a != 3) {
                                      LEXER --> | T ID [a] on line 5...
                                      LEXER --> | T ASSIGNMENT OP [ = ] on line 5...
         print(a)
         while (b != 3) {
                                      LEXER --> | T DIGIT [0] on line 5...
                print(b)
                                      LEXER --> | T ID [ b ] on line 6...
                                      LEXER --> | T ASSIGNMENT OP [ = ] on line 6...
                b = 1 + b
                                      LEXER --> | T_DIGIT [ 0 ] on line 6...
                if (b == 2) {
                print("there is no
                                      LEXER --> | T_WHILE [ while ] on line 8...
spoon")
                                      LEXER --> | T_OPENING_PARENTHESIS [ ( ] on line 8...
                }
                                      LEXER --> | T_ID [ a ] on line 8...
         }
                                      LEXER --> | T_INEQUALITY_OP [ != ] on line 8...
                                      LEXER --> | T_DIGIT [ 3 ] on line 8...
         b = 0
                                      LEXER --> | T RIGHT PARENTHESIS [ ) ] on line 8...
```

```
a = 1 + a
                                      LEXER --> | T OPENING BRACE [ { ] on line 8...
                                      LEXER --> | T PRINT [ print ] on line 9...
          }
}$
                                      LEXER --> | T OPENING PARENTHESIS [()] on line 9...
                                      LEXER --> | T_ID [ a ] on line 9...
                                      LEXER --> | T RIGHT PARENTHESIS [ ) ] on line 9...
                                      LEXER --> | T_WHILE [ while ] on line 10...
                                      LEXER --> | T_OPENING_PARENTHESIS [ ( ] on line 10...
                                      LEXER --> | T ID [ b ] on line 10...
                                      LEXER --> | T INEQUALITY OP [ != ] on line 10...
                                      LEXER --> | T DIGIT [ 3 ] on line 10...
                                      LEXER --> | T_RIGHT_PARENTHESIS [ ) ] on line 10...
                                      LEXER --> | T OPENING BRACE [ { ] on line 10...
                                      LEXER --> | T PRINT [ print ] on line 11...
                                      LEXER --> | T_OPENING_PARENTHESIS [ ( ] on line 11...
                                      LEXER --> | T_ID [ b ] on line 11...
                                      LEXER --> | T_RIGHT_PARENTHESIS[)] on line 11...
                                      LEXER --> | T_ID [ b ] on line 12...
                                      LEXER --> | T_ASSIGNMENT_OP [ = ] on line 12...
                                      LEXER --> | T DIGIT [ 1 ] on line 12...
                                      LEXER --> | T ADDITION OP [+] on line 12...
                                      LEXER --> | T ID [ b ] on line 12...
                                      LEXER --> | T IF [ if ] on line 13...
                                      LEXER --> | T_OPENING_PARENTHESIS [ ( ] on line 13...
                                      LEXER --> | T ID [ b ] on line 13...
                                      LEXER --> | T_EQUALITY_OP [ == ] on line 13...
                                      LEXER --> | T_DIGIT [ 2 ] on line 13...
                                      LEXER --> | T_RIGHT_PARENTHESIS [)] on line 13...
                                      LEXER --> | T OPENING BRACE [ { ] on line 13...
                                      LEXER --> | T PRINT [ print ] on line 14...
                                      LEXER --> | T OPENING PARENTHESIS [ ( ] on line 14...
                                      LEXER --> | T QUOTE [ " ] on line 14...
                                      LEXER --> | T_CHAR [t] on line 14...
                                      LEXER --> | T CHAR [ h ] on line 14...
                                      LEXER --> | T_CHAR [ e ] on line 14...
                                      LEXER --> | T CHAR [ r ] on line 14...
                                      LEXER --> | T_CHAR [e] on line 14...
                                      LEXER --> | T_WHITE_SPACE [ ] on line 14...
                                      LEXER --> | T_CHAR [i] on line 14...
                                      LEXER --> | T CHAR [s] on line 14...
                                      LEXER --> | T_WHITE_SPACE [ ] on line 14...
                                      LEXER --> | T CHAR [ n ] on line 14...
                                      LEXER --> | T CHAR [o] on line 14...
                                      LEXER --> | T_WHITE_SPACE [ ] on line 14...
                                      LEXER --> | T CHAR [ s ] on line 14...
                                      LEXER --> | T CHAR [p] on line 14...
                                      LEXER --> | T CHAR [o] on line 14...
                                      LEXER --> | T_CHAR [ o ] on line 14...
                                      LEXER --> | T_CHAR [ n ] on line 14...
```

```
LEXER --> | T QUOTE [ " ] on line 14...
                                       LEXER --> | T_RIGHT_PARENTHESIS [)] on line 14...
                                       LEXER --> | T CLOSING BRACE [ } ] on line 15...
                                       LEXER --> | T_CLOSING_BRACE [ } ] on line 16...
                                       LEXER --> | T ID [b] on line 18...
                                       LEXER --> | T_ASSIGNMENT_OP [ = ] on line 18...
                                       LEXER --> | T_DIGIT [ 0 ] on line 18...
                                       LEXER --> | T ID [a] on line 19...
                                       LEXER --> | T ASSIGNMENT OP [ = ] on line 19...
                                       LEXER --> | T DIGIT [ 1 ] on line 19...
                                       LEXER --> | T ADDITION OP [+] on line 19...
                                       LEXER --> | T ID [a] on line 19...
                                       LEXER --> | T CLOSING BRACE [ } ] on line 20...
                                       LEXER --> | T_CLOSING_BRACE [ } ] on line 21...
                                       LEXER --> | T_EOPS [ $ ] on line 21...
                                      Lex Completed With 0 WARNING(S) and 0 ERROR(S)...
{
                                      Beginning Lexing Session... *Stings Treated As CharList*
        int a
                                       LEXER --> | T OPENING BRACE [ { ] on line 1...
        a = 1
}
                                       LEXER --> | T_VARIABLE_TYPE [ int ] on line 2...
                                       LEXER --> | T_ID [ a ] on line 2...
                                       LEXER --> | T ID [a] on line 3...
                                       LEXER --> | T_ASSIGNMENT_OP [ = ] on line 3...
                                       LEXER --> | T DIGIT [1] on line 3...
                                       LEXER --> | T CLOSING BRACE [ } ] on line 4...
                                       LEXER --> | WARNING! NO EOPS [$] detected. Added to end-of-
                                      file at line 4...
                                      Lex Completed With 1 WARNING(S) and 0 ERROR(S)...
{
                                      Beginning Lexing Session... *Stings Treated As CharList*
        int a
        a = 1
                                       LEXER --> | T OPENING BRACE [ { ] on line 1...
                                       LEXER --> | T VARIABLE TYPE [int] on line 2...
        if(a == 1) {
                                       LEXER --> | T ID [a] on line 2...
                                       LEXER --> | T_ID [ a ] on line 3...
                a = 2
        }
                                       LEXER --> | T ASSIGNMENT OP [ = ] on line 3...
                                       LEXER --> | T DIGIT [1] on line 3...
        if(a != 1) {
                                       LEXER --> | T IF [if] on line 5...
                a = 3
                                       LEXER --> | T_OPENING_PARENTHESIS [ ( ] on line 5...
        }
                                       LEXER --> | T ID [a] on line 5...
}$
                                       LEXER --> | T_EQUALITY_OP [ == ] on line 5...
                                       LEXER --> | T DIGIT [1] on line 5...
                                       LEXER --> | T_RIGHT_PARENTHESIS [ ) ] on line 5...
                                       LEXER --> | T_OPENING_BRACE [ { ] on line 5...
                                       LEXER --> | T ID [a] on line 6...
                                       LEXER --> | T ASSIGNMENT OP [ = ] on line 6...
                                       LEXER --> | T DIGIT [2] on line 6...
```

```
LEXER --> | T CLOSING BRACE [ } ] on line 7...
                                      LEXER --> | T IF [ if ] on line 9...
                                      LEXER --> | T OPENING PARENTHESIS [()] on line 9...
                                      LEXER --> | T_ID [ a ] on line 9...
                                      LEXER --> | T INEQUALITY OP [!=] on line 9...
                                      LEXER --> | T_DIGIT [ 1 ] on line 9...
                                      LEXER --> | T_RIGHT_PARENTHESIS [ ) ] on line 9...
                                      LEXER --> | T OPENING BRACE [ { ] on line 9...
                                      LEXER --> | T ID [a] on line 10...
                                      LEXER --> | T ASSIGNMENT OP [ = ] on line 10...
                                      LEXER --> | T DIGIT [ 3 ] on line 10...
                                      LEXER --> | T CLOSING BRACE [ } ] on line 11...
                                      LEXER --> | T CLOSING BRACE [ } ] on line 12...
                                      LEXER --> | T_EOPS [ $ ] on line 12...
                                      Lex Completed With 0 WARNING(S) and 0 ERROR(S)...
                                      Beginning Lexing Session... *Stings Treated As CharList*
{
        print(while)
}$
                                      LEXER --> | T OPENING BRACE [ { ] on line 1...
                                      LEXER --> | T PRINT [ print ] on line 2...
                                      LEXER --> | T_OPENING_PARENTHESIS [ ( ] on line 2...
                                      LEXER --> | T_WHILE [ while ] on line 2...
                                      LEXER --> | T_RIGHT_PARENTHESIS [ ) ] on line 2...
                                      LEXER --> | T_CLOSING_BRACE [ } ] on line 3...
                                      LEXER --> | T EOPS [ $ ] on line 3...
                                      Lex Completed With 0 WARNING(S) and 0 ERROR(S)...
                                      Beginning Lexing Session... *Stings Treated As CharList*
{
        print("while")
}$
                                      LEXER --> | T OPENING BRACE [ { ] on line 1...
                                      LEXER --> | T_PRINT [ print ] on line 2...
                                      LEXER --> | T OPENING PARENTHESIS [()] on line 2...
                                      LEXER --> | T QUOTE [ " ] on line 2...
                                      LEXER --> | T CHAR [w] on line 2...
                                      LEXER --> | T CHAR [h] on line 2...
                                      LEXER --> | T CHAR [i] on line 2...
                                      LEXER --> | T CHAR [1] on line 2...
                                      LEXER --> | T CHAR [e] on line 2...
                                      LEXER --> | T QUOTE [ " ] on line 2...
                                      LEXER --> | T RIGHT PARENTHESIS [ ) ] on line 2...
                                      LEXER --> | T CLOSING BRACE [ } ] on line 3...
                                      LEXER --> | T_EOPS [ $ ] on line 3...
                                      Lex Completed With 0 WARNING(S) and 0 ERROR(S)...
```

Failed Lex Code Block	Log Results
{}\$	Beginning Lexing Session *Stings Treated As CharList*

```
{{{{{}}}}}}}
                                      LEXER --> | T OPENING BRACE [{] on line 1...
{{{{{}}}}}}}
                                      LEXER --> | T CLOSING BRACE [ } ] on line 1...
{int
        @}$
                                      LEXER --> | T_EOPS [ $ ] on line 1...
                                      LEXER --> | T OPENING BRACE [ { ] on line 2...
                                      LEXER --> | T OPENING BRACE [ { ] on line 2...
                                      LEXER --> | T_OPENING_BRACE [ { ] on line 2...
                                      LEXER --> | T OPENING BRACE [ { ] on line 2...
                                      LEXER --> | T OPENING BRACE [{] on line 2...
                                      LEXER --> | T OPENING BRACE [{] on line 2...
                                      LEXER --> | T CLOSING_BRACE [ } ] on line 2...
                                      LEXER --> | T CLOSING BRACE [ } ] on line 2...
                                      LEXER --> | T CLOSING BRACE [ } ] on line 2...
                                      LEXER --> | T CLOSING BRACE [ } ] on line 2...
                                      LEXER --> | T_CLOSING_BRACE [ } ] on line 2...
                                      LEXER --> | T_CLOSING_BRACE [ } ] on line 2...
                                      LEXER --> | T EOPS [$] on line 2...
                                      LEXER --> | T_OPENING_BRACE [ { ] on line 3...
                                      LEXER --> | T OPENING BRACE [{] on line 3...
                                      LEXER --> | T OPENING BRACE [ { ] on line 3...
                                      LEXER --> | T OPENING BRACE [ { ] on line 3...
                                      LEXER --> | T OPENING BRACE [ { ] on line 3...
                                      LEXER --> | T OPENING BRACE [{] on line 3...
                                      LEXER --> | T CLOSING BRACE [ } ] on line 3...
                                      LEXER --> | T_CLOSING_BRACE [ } ] on line 3...
                                      LEXER --> | T_CLOSING_BRACE [ } ] on line 3...
                                      LEXER --> | T_CLOSING_BRACE [ } ] on line 3...
                                      LEXER --> | T CLOSING BRACE [ } ] on line 3...
                                      LEXER --> | T CLOSING BRACE [ } ] on line 3...
                                      LEXER --> | T_CLOSING_BRACE [ } ] on line 3...
                                      LEXER --> | T EOPS [ $ ] on line 3...
                                      LEXER --> | T OPENING BRACE [ { ] on line 4...
                                      LEXER --> | T VARIABLE TYPE [int] on line 4...
                                      LEXER --> | ERROR! Unrecognized or Invalid Token [@] on line
                                      Lex Failed With 0 WARNING(S) and 1 ERROR(S)...
                                      Beginning Lexing Session... *Stings Treated As CharList*
{
        print("$")
}
                                      LEXER --> | T OPENING BRACE [ { ] on line 1...
                                      LEXER --> | T PRINT [ print ] on line 2...
                                      LEXER --> | T OPENING PARENTHESIS [ ( ] on line 2...
                                      LEXER --> | ERROR! Unrecognized or Invalid Token [ "$" ] on
                                      line 2
                                      Lex Failed With 0 WARNING(S) and 1 ERROR(S)...
adsfadafd
                                      Beginning Lexing Session... *Stings Treated As CharList*
```

## **LEXER Test Cases & Results**

{     print("while + true") }\$	LEXER>   ERROR! Unrecognized or Invalid Token [ adsfadafd ] on line 1  LEXER>   ERROR! Input did not generate valid Token Array  Lex Failed With 0 WARNING(S) and 2 ERROR(S)  Beginning Lexing Session *Stings Treated As CharList*  LEXER>   T_OPENING_BRACE [ { ] on line 1  LEXER>   T_PRINT [ print ] on line 2  LEXER>   T_OPENING_PARENTHESIS [ ( ] on line 2  LEXER>   ERROR! Unrecognized or Invalid Token [ "while + true" ] on line 2
*Frankri Canada*	Lex Failed With 0 WARNING(S) and 1 ERROR(S)
*Empty Console*	Beginning Lexing Session *Stings Treated As CharList*  LEXER>   ERROR! Empty Input or Only White-Space  Detected
	Lex Failed With 0 WARNING(S) and 1 ERROR(S)
{     string a     int b      b = 0      if (b == 0) {         a = ["this", "won't", "work"]     } }	Beginning Lexing Session *Stings Treated As CharList*  LEXER>   T_OPENING_BRACE [ { } ] on line 1  LEXER>   T_VARIABLE_TYPE [ string ] on line 2  LEXER>   T_ID [ a ] on line 2  LEXER>   T_VARIABLE_TYPE [ int ] on line 3  LEXER>   T_ID [ b ] on line 3  LEXER>   T_ID [ b ] on line 5  LEXER>   T_ASSIGNMENT_OP [ = ] on line 5  LEXER>   T_IF [ if ] on line 7  LEXER>   T_ID [ b ] on line 7  LEXER>   T_ID [ b ] on line 7  LEXER>   T_EQUALITY_OP [ == ] on line 7  LEXER>   T_DIGIT [ 0 ] on line 7  LEXER>   T_DIGIT [ 0 ] on line 7  LEXER>   T_DOPENING_BRACE [ { } ] on line 7  LEXER>   T_OPENING_BRACE [ { } ] on line 7  LEXER>   T_ASSIGNMENT_OP [ = ] on line 8  LEXER>   ERROR! Unrecognized or Invalid Token [ [ ] on line 8
{	Beginning Lexing Session *Stings Treated As CharList*
<pre>print("There") }\$</pre>	LEXER>   T_OPENING_BRACE [ { ] on line 1  LEXER>   T_PRINT [ print ] on line 2  LEXER>   T_OPENING_PARENTHESIS [ ( ] on line 2

## **LEXER Test Cases & Results**

LEXER>   ERROR! Unrecognized or Invalid Token [ "There" ] on line 2
Lex Failed With 0 WARNING(S) and 1 ERROR(S)