**Language Tutorial**

**/subsection Program Execution**

To compile a .chem program, simply use the compilation shell script with your .chem file as the only argument.

./compile.sh yourProgram.chem

After compilation, if there are no errors, there will be a Java program that gets created. One can the compile the Java program into an executable using javac.

**/subsection Variables**

Variables in ChemLAB must be declared as a specific type. To use a variable, declare the type of the variable, and assign it to the value that you want like this:

int myNum = 5;

String hello = "World";

**/subsection Control Flow**

ChemLAB supports "if/else" statements:

if(10>6){

print("inside the if");

else{

print("inside the else");

}

ChemLAB supports "while loops":

while(i > 0){

print(i);

i = i-1;

}

**/subsection Functions**

Functions are the basis of ChemLAB. Functions can be passed any amount of parameters and are declared using the function keyword. The parameters within a function declaration must have type specifications.

This is a function that takes in two parameters:

function add (int a, int b){

return a+b;

}

This is a function that takes in no parameters:

function noParam(){

print("Hello World");

return 1;

}

**/subsection Printing to stdout**

To print to stdout, simply use the built-in function "print"

print(6);

print("Hello World");