**Test1 and Test2:**

Test1 is the netlist equivalent for the circuit that gives the truth value of "01000001". The string version of the circuit is the following where W7 is the overall circuit.

W0 (c.0)

W1 ((c.0).b)

W2 (((c.0).b).a)

W3 ((((c.0).b).a).a)

W4 ((((c.0).b).a).((c.0).b))

W5 (((((c.0).b).a).a).((((c.0).b).a).((c.0).b)))

W6 ((((((c.0).b).a).a).((((c.0).b).a).((c.0).b))).(c.0))

W7 (((((((c.0).b).a).a).((((c.0).b).a).((c.0).b))).(c.0))

+((((c.0).b).a).a))

Test2 is the netlist for the repressillator circuit.

Test1 and Test2 should be run with wrapperForNetlist(fileLoc, placeToSave, makeBarGraph=True) where fileLoc is the directory of the test file, placeToSave is anywhere you want to save the intermediate DAG information, and makeBarGraph should be True. fileLoc is the location and name of whatever you want to save it as. Save the soln\_f to a json file using a code similar to the following by copying and pasting inside the General file. The first three files are needed because json cannot properly write a numpy array to a file. Compare the files you make with the Results1 and Results2. Results1 corresponds to Test1 while Results2 corresponds to Test2. Files Int1 and Int2 are the json files of the dag.

fileLoc = "C:\Users\Arinze\Desktop\TestCases/Results1.json"

soln\_f2 = []

for ary in soln\_f:

soln\_f2.append(list(ary))

myFile = open(fileLoc,’w’)

json.dump(soln\_f2, myFile, sort\_keys=True, indent=4, separators=(',', ': '))

myFile.close()

**Test3:**

Test3 is to use wrapper for circuitString8 “((a.b).c)”. Make sure you use values from the 4th library. This is probably not the library it is set to right now. Use the following code snippet.

wrapper(circuitString8, Libraries, fileLoc, True)

In order, use IPTG3, IPTG2, IPTG4, GENE7, GENE10, FP2

Note that the number you have to enter is one less than the number at the name of the gene, input or output. The results are saved in Results3. The dag for this would be saved in the JsonFiles folder under test.json. I included it in the folder as Int3.

If there is something wrong with the Results we can start by checking the Int to see if the dags were saved properly.