# 1 Introduction

During lab 2, we started learning the basic concepts of python and especially Hardware Modeling Using Python.

# 2 Discussion

We were introduced to the Arithemtic and Logical Unit(ALU) and its Block Diagram which shows us how processers work(f.e. Addition or Substraction). After understanding the ALU design, we started writing an ALU Python Model on Sublime Text. We first set up the Input/Output/Status Registers and defined the OpCodes(Constants) ADD/SUB/LEFT/RIGHT, the functions AddSub which takes as arguments two numbers A and B and an OpCode, a function for the multiplexer mux, which takes as arguments In1 and In2 and Sel, which retunes according to Sel In1 or In2. We defined also the function AND for the AND Gate, which takes as args 2 numbers A and B, and returns their sum, and the OR function for the OR Gate which returnes one of the two inputs.

# 3 Results Analysis

Initialy we decided to make Sel=0, and OpCode=0, in order to control the ALU. After compiling and running the code, the program worked as expected.

# 4 Conclusion

After the lab 2, we studied the basics of the python language and especially Hardware Modeling and logic gates.