

## COMP262-01

# CPU SIM Project: a PEP8 Virtual Machine SIMULATION–PART1 CODING of the SIMULATION PROCESS/PROGRAM

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Proceed to start the coding of the Simulation program.

For this part (1), we will use the provided complete program structure with partial code (The STEP (shell)); This shell includes: Required global variables/object declarations, the main () method, the dostep () method and the method header for all six 'stage' methods (FI, DI, CO, FO, EI, WO).

For this part, we need to code:

FI (Fetch Instruction) stage method.

The rest of the stage and instruction processing methods will be implemented in subsequent parts.

In the REQUIRED MATERIALS folder we have provided:

- a list of the reduced set of instructions and addressing modes that need to be implemented;
- a list taken from the Warford textbook, highlighting the subset of the PEP8 Instruction Set, that needs to be implemented;
- PEP8 Source code which, in assembled form(machine instructions), becomes the input and 'memory' for the Simulation program;
- The STEP class program source (The SHELL) and two '.class' files (CPU.class and SIMULATION.class), which are required in order to compile the STEP program.

After completing the required code the Simulation will produce only a partial update of the CPU State, showing the results of FETCHING the program instructions.

One way to verify the accuracy of the code is to compare the output (CPU State) from the Simulation and the PEP8 App, doing it ONE STEP AT A TIME.

### **Deliverables**

The modified source for the program, with DETAILED comments indicating WHAT parts of the program are not working and what is left to be coded.