1DT301: Computer Technology

Homework 1

Due in class on October 10, 2018

1. What are the five functional units of a computer?

2. In a byte addressable memory with a 64-bit address, what is the maximum size of memory?

3. Describe the addressing modes you have learned.

4. Describe what the code “Add 20(R1), R0” computes?

5. Write an assembly language code which adds 100 numbers. Assume that it is a 32-bit machine and all the numbers are put in an array with the starting address of 1000.

6. Describe what the code “Move (SP)+, A” computes.

7. Describe the difference between a RISC machine and a CISC machine.

8. Describe what an edge triggered D flipflop is.

9. Describe the 3 clock cycle computation process for the code “Add R1, R2, R3”.

10. Draw the diagram to compute A-B assuming that they are 8-bit numbers.