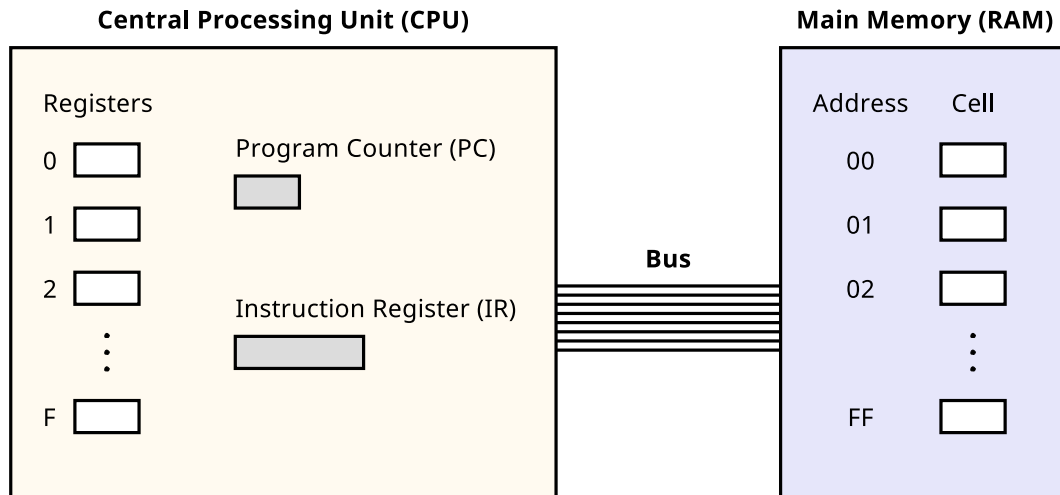# Model 1 Computer Architecture

Here is the 8-bit machine described in Appendix C of Brookshear and Brylow (2015):

Questions (12 min)   Start time: _____

1. What are the three main components in the diagram? Based on its name, what do you think each hardware component does?

2. How many registers does the CPU have? How many memory cells are in RAM?

3. The CPU has circuits for adding the contents of two registers; think of registers as the "pins" in last week's lab. What is the largest number this machine can add without overflowing?

4. Common tasks the CPU performs include *loading* data from a memory cell into a register and *storing* data from a register into a memory cell. Describe what the CPU would need to do in order to add twenty numbers stored in memory.