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assignment:	homework 4
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1.   What does it mean that the ARM instruction set is a load/store architecture?

ARM's Load/Store architecture means that data values must be loaded into CPU registers before arithmetic or logic operations can be performed on them. The instructions that load data values from memory, or store data values in memory cannot alter the value.

2.   Write the pattern (load/destination_register/source_memory_address) of an ARM load instruction.

load   destination_register, source_memory_address

3.   Write the pattern (store/source_register/destination_memory_address) of an ARM store instruction.

store   source_register, destination_memory_address

4.   Define "addressing mode."

The CPU determines the memory address for a load or store by adding a positive or negative offset to a value in a base register. The way in which the CPU combines these two parts is called the Addressing Mode.

5.   Describe the immediate addressing mode.

In the immediate addressing mode the offset is an unsigned integer that is stored as part of the instruction. It can be added to or subtracted from the value in the base register. If a label is used to specify the address, the assembler uses the pc as the base register and computes the appropriate offset.

6.   Describe the register addressing mode.

In the register addressing mode the offset is an unsigned integer that is in a register other than the pc. It can be added to or subtracted from the value in the base register.

7.   Describe the scaled register addressing mode.

In the scaled register addressing mode the offset is an unsigned integer that is in a register other than the pc. It is shifted by an immediate amount before it is added to or subtracted from the value in the base register.

8.   What is required to increment a 32-bit value at a particular memory address on ARM?

To increment a 32-bit value at a particular memory address on ARM would require three types of instructions (load, increment, and store) to first load the value at a particular address into a register, increment it within the register, and store it back to the memory from the register.

9.   Generally, what is the LDR instruction used for?
LDR is used to load something from memory into a register.

10. Generally, what is the STR instruction used for?
STR is used to store something from a register to a memory address.