Hints

Addressing Modes:

Immediate	#value	operand = value
Register	Ri	EA = Ri
Absolute (Direct)	LOC	EA = LOC
Indirect	(Ri)	EA = [Ri]
	(LOC)	EA = [LOC]
Index	X(Ri)	EA = [Ri] + X
Base with index	(Ri, Rj)	EA = [Ri] + [Rj]
Base with index and offset	X(Ri, Rj)	EA = [Ri] + [Rj] + X
Autoincrement	(Ri)+	EA = [Ri]; Increment Ri
Autodecrement	-(Ri)	Decrement Ri; EA = [Ri] + X

Binary Number Representation Schemes

- <u>Sign and magnitude</u> where the most significant bit being 0 for a positive number and 1 for a negative number.

- <u>One's complement</u> where a negative number is represented by the complement of its positive representation.

- <u>Two's complement</u> where a negative number is derived by adding 1 to its one's complement.

Basic Performance Equation

$$T = N \times S / R$$

- T = Time required to execute a program
- N = Number of machine language instructions
- S = Number of clock cycles per machine instruction
- R = Clock rate in cycles per second (Hz)