EE345 Sample Program with machine instructions

address	label	instruction	machine(hex)	decimal	comment
start:	clr $1;		046		$1 will be used for variable "sum"
0	start:	clr $0;	04e	78	$0 will be used for variable "i"
1		clr $2;	056	86	$2 will be used for A[]
2		addi $2,A;	141	321	We assume A is at address 1 in data memory.
3	loop:	addi $0,N;	11d	285	We add –N (1d) to I to see if we get zero
4		bez $0, exit;	188	392	If zero, we exit at +8 from current address
5		addi $0, N;	103	259	add N back to i so it's at correct value
6		lw $3, ($2);	072	114	load the word A points to
7		add $1, $3;	03e	62	add the value of A[i] to sum
8		addi $2,1	141	321	increment A to point to the next A[i]
9		addi $0,1	101	257	increment i
a		clr $3	064	100	clear $3 for the bez to make it unconditional
b		bez $3, loop	1f7	503	branch back for next iteration
c	exit:	clr $3	064	100	clear $3 for the bez to make it unconditional
d		addi $3, sum	160	352	sum is at address 0 in data ram
e		sw $1, ($3)	03b	59	store the accumulated sum into the variable "sum"
f		clr $3	064	100	clear $3 for the bez to make it unconditional
10	halt:	bez $3, halt	1ff	511	branch to here forever to halt execution
11		j start	200	512	jump back to start