BCD to ASCII Code Conversion using 8051

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Aim:
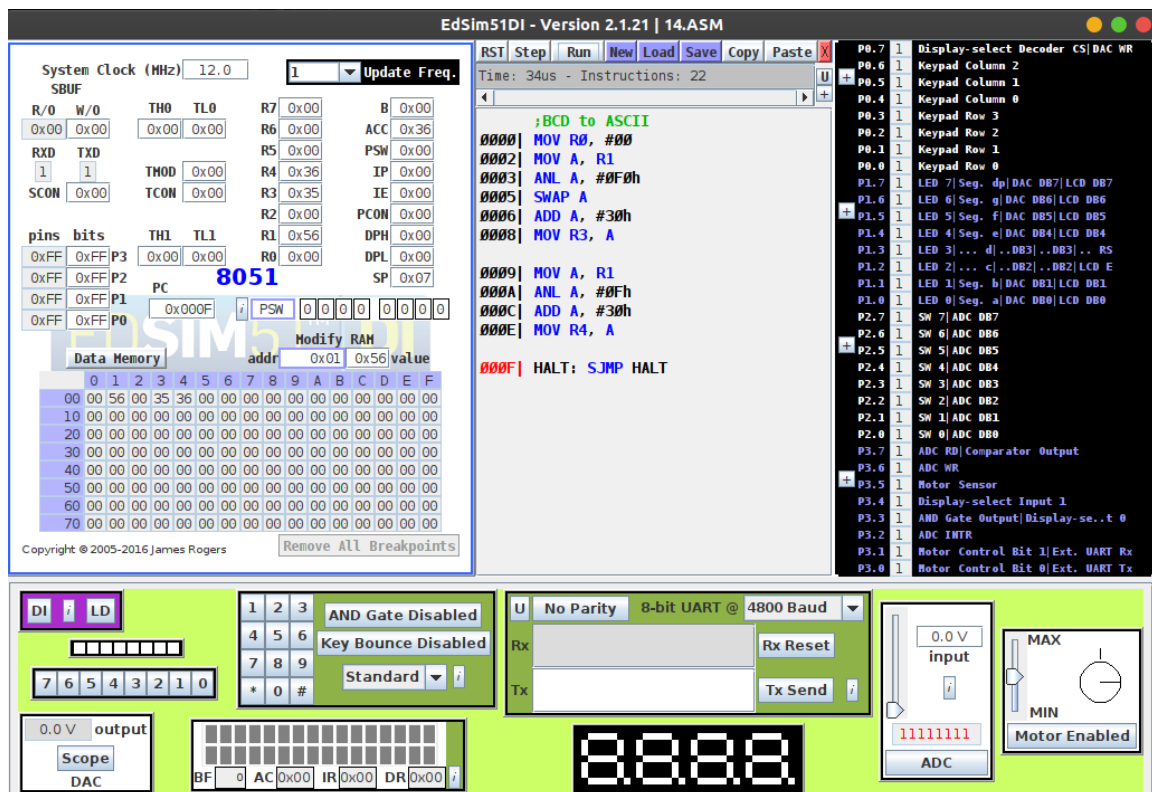
To write and execute 8051 ALP for BCD to ASCII code conversion.

Algorithm:

* Move the value in R1 to A.

* Get the lower byte at A by performing logical AND over A 0F.

* Add 30h to A.

* Move A to R4.

* Move the value in R1 to A.

* Get the higher byte at A by performing logical AND over A F0.

* Swap the lower and higher nibble in A.

* Add 30h to A.

* Move A to R3.

Program:

Program		Comments
	MOV R0, 00	Initialise R0 with 00
	MOV A, r1	input
	ANL A, 0F0h	Masking lower order bits
	SWAP A	Swapping higher 4 bits with lower 4 bits
	ADD A, 30h	Converting to ASCII
	MOV R3, A	Storing 10s digit ASCII
	MOV A, R1	input
	ANL A, 0Fh	Masking higher order bits
	ADD A, 30h	Converting to ASCII
	MOV R4, A	Storing 1s digit ASCII
HERE:	SJMP **HERE**	End program

Sample Output:

Result:

8051 ASL programs for BCD to ASCII code conversion has been executed successfully.