

How to use the 8085 Microprocessor SDK Simulator:

The *8085 Microprocessor SDK Simulator* is extremely user friendly and it takes almost no time to get familiar with it. Even a novice can start using this software efficiently without any training. But, although it is needless to say, prior knowledge of assembly level programming is needed.

What follows is a complete guide needed for using the software. Although the following subject matter is short, we feel this is all that is necessary to get started.

1. To start the program, you need to execute the file named Sim8085.exe
2. Now you will get a screen, which looks some-what like the one shown below.

The screenshot shows the 8085 Microprocessor SDK Simulator interface. It includes a menu bar (File, Run, Help, Exit), a Coding Sheet table, a Data Sheet table, a Registers table, and a mnemonic key pad. Red arrows point to these elements with labels: 'assembly program code' points to the Coding Sheet, 'memory contents' points to the Data Sheet, 'mnemonic key pad' points to the key pad, and 'register contents' points to the Registers table.

Coding Sheet : Noname

Addr	Mnemo	Oper and	Opco
2000	MVI	A, 22H	3E
2001			22
2002	MVI	B, 33H	06
2003			33
2004	ADD	B	80
2005	STA	3000H	32
2006			00
2007			30
2008	HLT		76

Data Sheet

Addr	Data
3000	55

Registers

Flag	Acc	B	C	D	E	H	L
04	55	33	FF	FF	FF	FF	FF

Mnemonic Key Pad

MOV	MVI	LDA	STA
LHLD	SHLD	LDAX	STAX
LXI	XCHG	HLT	NOP
ADD	ADI	ADC	ACI
SUB	SUI	SBB	SBI
INR	DCR	INX	DCX
DAD	DAA	ANA	ANI
XRA	XRI	ORA	ORI
RLC	RRC	RAL	RAR
CMP	CPI	CMC	STC
JMP	Jc	CALL	Cc
RET	Rc	RST	PCHL
PUSH	POP	XTHL	SPHL
IN	OUT	EI	DI
RIM	SIM	CMA	Undo

Other Controls

A	B	C	D
E	H	L	M
B	D	H	
SP	PSW		
0	1	2	3
4	5	6	7
8	9	A	B
C	D	E	F
NZ	Z		
NC	C		
PO	PE		
P	M		

Time: 20:35:43

3. To key in a new assembly language statement, press *the mnemonic button* from the *mnemonic key pad* that corresponds to the required mnemonic in the assembly language program. The mnemonic will get *reflected* on the coding sheet and the *operand key pad* (if required) will be enabled.
4. Key in the required operands. Only valid operand buttons will be enabled. This rules out any syntax error.
5. Similarly, key in the entire assembly level program.
6. To insert direct hexadecimal data value in memory, click on the *data sheet* (memory contents sheet). Now, the *numeric key pad* will be enabled. Enter the four-digit hexadecimal memory address (by clicking on the numeric buttons) followed by two digit (one byte) hexadecimal data value.
7. After completing the assembly level program, to *simulate* the program, select *run entire program* from *Run* menu. To debug the program, select *run step-by-step* option from *Run* menu.
8. After execution of assembly language program, the resulting values of the internal programmable registers are displayed on the screen. Any memory location, if modified, is also displayed.
9. Note that only those memory locations with non-zero values are displayed on the screen.
10. To save the assembly language program, select *save* option from *File* Menu. The programs are saved in files with extension *.cod* – example addition.cod.
11. To open an existing file, select *open* option from the File menu.
12. To edit an assembly program, use the up/down arrow keys to highlight the required statement. Then use *del* key to delete the statement or click on the *undo* button to remove the previous statement.
13. To insert a new statement, using up/down arrow keys move the highlight to the statement before which insertion has to be made and then insert a new statement in normal way.