

Ex - 11

Add operation Using 8051 Microprocessor.

Address	Memories	Hex Code	Comments
0000	MOV A, #05H		5
0000	MOV A, #05H		Store a No in accumulator.
0003	MOV B, #03H		Store a No in register B
0006	ADD A, B		Add A register data with B register Data.
0008	MOV R6, A		Move R6 register data to accumulator.
0009	END		stop execution

Result:- we add two no using 8051 microcontroller two no 5 and 3. At first store them to accumulator then add B register then add them and move the register value to accumulator.

<Substraction operation Using 8051 Microcontroller.>

Address	Memories	Hex Code	Comments
0000	MOV A, #05H		Store a no in accumulator
0003	MOV B, #03H		Store another no in register B
0006	SUBB A, B		substraction operation done in A and B
0008	MOV, R5, A		the result get in R5 register move to accumulator
0009	END		stop execution

Result: At first we take two number in accumulator and register B. and the number in accumulator is greater than B. then perform subtraction operation. and store it in to register. then move the content of the register to accumulator. and subtraction operation is done.

EX - 3

< Multiplication operation using 8051 microcontroller. >

Address	Memonics	Hex Code	Comments
0000	MOV A, #05A		store a no in Accumulator
0003	MOV B, #03B		store a number in B register
0006	MUL A, B		multiply and get ans in R6
0008	MOV, R6, A		Move the content of R6 into A
0009	END		stop execution

EX - 4

< Division operation using 8051 microcontroller >

Address	Memonics	Hex Code	Comments
0000	MOV A, #06A		store a no in Accumulator
0003	MOV B, #03A		store a another number in B register
0006	MOV A, B		Multip Division and get result in R5
0008	MOV, R5, A		Move the content of R5 into A
0009	END		stop execution)

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Registers

Register	Value
r0	0x00
r1	0x00
r2	0x00
r3	0x00
r4	0x00
r5	0x00
r6	0x00
r7	0x00
Sys	
a	0x05
b	0x03
sp	0x07
sp_max	0x07
dptr	0x0000
PC	0x0007
status	4
sec	0.000002
pcw	0x01

Disassembly

```
4: ADD A,B
C:0x0005 25F0 ADD A,B(0xF0)
5: MOV R6,A
C:0x0007 FE MOV R6,A
```

add.asm

```
1 ORG 000H
2 MOV A,#05H
3 MOV B,#03H
4 ADD A,B
5 MOV R6,A
6 END
```

Command

Running with Code Size Limit: 2K
Load "C:\Users\91834\Desktop\Objects\add"

Call Stack - Locals

Name	Location/Value	Type
ADD	C:0x0002	
B	0x03	uchar

ASM ASSIGN BreakDisable BreakEnable BreakKill BreakList BreakSet BreakAccess COVERAGE COVTOFILE

Step one line

Simulation tt: 0.00000200 sec L:5 C:1 CAP NUM SCRL OVR RAW

18:42 11-07-2021

C:\Users\91834\Desktop\div.uvproj - uVision

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Registers

Register	Value
r0	0x00
r1	0x00
r2	0x00
r3	0x00
r4	0x00
r5	0x01
r6	0x00
r7	0x00
sp	0x01
sp_max	0x02
dptr	0x07
PC	0x0007
status	0x0000
sec	0x000004
psw	0x01

Disassembly

Address	Disassembly
0x0000	2: MOV A, #05H
0x0001	3: MOV B, #03H
0x0002	4: DIV AB
0x0003	5: MOV R5, A
0x0004	6: END

DIV.asm

```
1 ORG 0000H
2 MOV A, #05H
3 MOV B, #03H
4 DIV AB
5 MOV R5, A
6 END
```

Command
Running with Code Size Limit: 2K
Load "C:\Users\91834\Desktop\Objects\div"
*** error 65: access violation at C:0x0007 : no 'execute/read' permission

ASM ASSIGN BreakDisable BreakEnable BreakKill BreakList BreakSet BreakAccess COVERAGE COVTOFILE

Call Stack - Locals		
Name	Location/Value	Type
DIV	C:0x0002	
B	0x02	uchar

C:\Users\91834\Desktop\subs.uvproj - µVision

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Registers

Register	Value
r0	0x00
r1	0x00
r2	0x00
r3	0x00
r4	0x00
r5	0x00
r6	0x00
r7	0x00
sys	
a	0x02
b	0x03
sp	0x07
sp_max	0x07
dptr	0x0000
PC	0x0007
status	4
sec	0.0000002
psw	0x01

Disassembly

```
4: SUBB A,B
C:0x0005 95F0 SUBB A,B(0xF0)
5: MOV R5,A
C:0x0007 FD MOV R5,A
```

SUB.ASM

```
1 ORG 0000H
2 MOV A,#05
3 MOV B,#03
4 SUBB A,B
5 MOV R5,A
6 END
7
8
```

Command

Running with Code Size Limit: 2K
Load "C:\\Users\\91834\\Desktop\\Objects\\subs"

Call Stack - Locals

Name	Location/Value	Type
SUB	C:0x0002	
B	0x03	uchar

ASM ASSIGN BreakDisable BreakEnable BreakKill BreakList BreakSet BreakAccess COVERAGE COVTOFILE

Step one line

Simulation t1: 0.00000200 sec L:5 C:1 CAP NUM SCRL OVR RV

C:\Users\91834\Desktop\MULuvproj - uVision

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Registers

Register	Value
r0	0x00
r1	0x00
r2	0x00
r3	0x00
r4	0x00
r5	0x00
r6	0x00
r7	0x00
sys	
a	0x0f
b	0x00
ap	0x07
ap_max	0x07
dptr	0x0000
PC	0x0006
status	7
sec	0.000003...
paw	0x00

Disassembly

4: MUL AB
C:0x0005 A4 MUL AB
5: MOV R5,A
C:0x0006 FD MOV R5,A

mul.asm
1 ORG 0000H
2 MOV A,#06H
3 MOV B,#03H
4 MUL AB
5 MOV R5,A
6 END
7

Command
Running with Code Size Limit: 2K
Load "C:\\Users\\91834\\Desktop\\Objects\\MUL"

Name	Location/Value	Type
MUL	C:0x0002	
B	0x00	uchar

ASM ASSIGN BreakDisable BreakEnable BreakKill BreakList BreakSet BreakAccess COVERAGE COVTOFILE

Step one line

Simulation t1: 0.00000350 sec L:5 C:1 CAP NUM SCRI OVR RAW 19:21 11-07-2021