Computer Organization Assignments

1. Addition of two 8 bit numbers having 16 bit sum.

# BEGIN 0000H

LXI H,C050

MOV A,M

INX H

ADD M

STA C052

HLT

# ORG C050

# DB 55H,66H

2. Subtraction of two 8 bit numbers (Single program should satisfy the following cases)

Case:1 When minuend is greater than subtrahend

# BEGIN 0000H

MVI A, 66H

MVI B, 55H

CMP B

JC LABEL

SUB B

STA C052

HLT

LABEL:

SUB B

CMA

INR A

STA C052h

HLT

Case 2: When minuend is smaller than subtrahend

# BEGIN 0000H

LXI H,C050

MOV A,M

INX H

MOV B,M

CMP B

JC LABEL

SUB B

STA C052

HLT

LABEL:

SUB B

CMA

INR A

STA C052h

HLT

#ORG C050

#DB 55H, 76H

3. Multiplication two 8 bit numbers, result is 16 bit number.

# BEGIN 0000H

LHLD C050

XCHG

MOV C,D

MVI D,00H

LXI H,0000H

LABEL:

DAD D

DCR C

JNZ LABEL

SHLD C052H

HLT

# ORG C050

#DB FFH, FFH

4. Division of two 8 bit number.

# BEGIN 0000H

LXI H,C050

MOV A,M

INX H

MVI C,00H

CMP M

JNC LABEL

STA C053

MOV A,C

STA C052

HLT

LABEL:

INR C

SUB M

CMP M

JNC LABEL

STA C053

MOV A,C

STA C052

HLT

# ORG C050

#DB 0E, 03H