D.O.E: 12/02/2019

D.O.S: 05/03/2019

Experiment No: 2(A)

Write a program to add two 16-bit number from memory and after the addition. Store the number in memory.

Memory Location	Instruction	Comments
2000_H	MOV SI, 3000_H	Move the address 3000_H to SI.
2003_H	MOV AX, [SI]	Move the content of SI to AX.
2005_H	INC SI	SI is incremented by 1.
2006_H	INC SI	SI is incremented by 1.
2007_H	ADD AX, [SI]	Addition between the content of the accumulator and content of SI and storing the result in accumulator.
2009_H	INC SI	SI is incremented by 1.
$200A_H$	INC SI	SI is incremented by 1.
$200B_H$	MOV [SI], AX	Move content of AX to SI.
$200D_H$	INT 03_H	END OF PROGRAM

RESULT:

Input

Memory Location	Data
3000_H	$8E69_H$
3002_H	$D002_H$

Output

Memory Location	Data
3004_H	$5E6B_H$
Register	Data
AX	$31B2_H$

D.O.E: 12/02/2019 D.O.S: 05/03/2019

Experiment No: 2(B)

Write a program to subtract 2 16-bit numbers from memory and after the subtraction store the number in memory.

Memory Location	Instruction	Comments
2000_H	MOV SI, 3000_H	Move the address 3000_H to SI.
2003_H	MOV AX, [SI]	Move the content of SI to AX.
2005_H	INC SI	SI is incremented by 1.
2006_H	INC SI	SI is incremented by 1.
2007_H	SUB AX, [SI]	Subtraction between the content of the accumulator and content of SI and storing the result in accumulator.
2009_H	INC SI	SI is incremented by 1.
$200A_H$	INC SI	SI is incremented by 1.
$200B_H$	MOV [SI], AX	Move the content of AX to SI.
$200D_H$	INT 03_H	END OF PROGRAM

RESULT:

INPUT

Memory Location	Data
3000_H	$8E69_H$
3002_H	$D002_H$

OUTPUT

Memory Location	Data
3004_H	$BE67_H$

D.O.E: 12/02/2019

D.O.S: 05/03/2019

Experiment No: 2(c)

Write a program to multiply 2 16-bit numbers from memory and store the result in memory.

Memory Location	Instruction	Comments
2000_H	MOV SI, 3000_H	Move the address 3000_H to SI.
2003_H	MOV AX, [SI]	Move the content of SI to accumulator AX.
2005_H	INC SI	SI is incremented by 1.
2006_H	INC SI	SI is incremented by 1.
2007_H	AND AX, [SI]	Multiply the content of SI with the content of accumulator and store the result in AX.
2009_H	INC SI	SI is incremented by 1.
$200A_H$	INC SI	SI is incremented by 1.
$200B_H$	MOV [SI], AX	Move the content of AX to SI.
$200D_H$	INT 03_H	END OF PROGRAM

RESULT:

Input

Memory Location	Data
3000_H	$8E69_H$
3002_H	$D002_H$

Output

Memory Location	Data
3004_H	8000_H

D.O.E: 12/02/2019

D.O.S: 05/03/2019

Experiment No: 2(D)

Write a program to perform OR operation between 2 16-bit numbers from memory and store the result in memory.

Memory Location	Instruction	Comments
2000_H	MOV SI, 3000_H	Move the address 3000_H to SI.
2003_H	MOV AX, [SI]	Move the content of SI to AX
2005_H	INC SI	SI is incremented by 1.
2006_H	INC SI	SI is incremented by 1.
2007_H	OR AX, [SI]	Perform OR operation between the content of SI and content of accumulator and store it in accumulator.
2009_H	INC SI	SI is incremented by 1.
$200A_H$	INC SI	SI is incremented by 1.
$200B_H$	MOV [SI], AX	Move the content of AX to SI.
$200D_H$	INT 03_H	END OF PROGRAM.

RESULT:

INPUT

Memory Location	Data
3000_H	$8E69_H$
3002_H	$D002_H$

Output

Memory Location	Data
3004_H	$DE6B_H$

D.O.E: 12/02/2019

D.O.S: 05/03/2019

Experiment No: 2(E)

Write a program to perform XOR operation between 2-16 bit numbers from memory and store the result in memory.

Memory Location	Instruction	Comments
2000_H	MOV SI, 3000_H	Move the address 3000_H to SI.
2003_H	MOV AX, [SI]	Move the content of SI to AX.
2005_H	INC SI	SI is incremented by 1.
2006_H	INC SI	SI is incremented by 1.
2007_H	XOR AX, [SI]	Perform XOR operation between the content of accumulator and content of SI and store the result in accumulator AX.
2009_H	INC SI	SI is incremented by 1.
$200A_H$	INC SI	SI is incremented by 1.
$200B_H$	MOV [SI], AX	Move the content of AX to SI
$200D_H$	INT 03_H	END OF PROGRAM

RESULT :-

Input

Memory Location	Data
3000_H	$8E69_H$
3002_H	$D002_H$

Output

Memory Location	Data
3004_H	$5E6B_H$

Experiment No: 2(F)

Write a program to perform NOT operation between 2 16 bit number from memory and store the result in memory.

Memory Location	Instruction	Comments
2000_H	MOV SI, 3000_H	Move the address 3000_H to SI.
2003_H	MOV AX, [SI]	Move the content of SI to accumulator.
2005_H	NOT AX	Perform NOT operation on the content of accumulator and store the result in accumulator.
2006_H	INC SI	SI is incremented by 1.
2007_H	INC SI	SI is incremented by 1.
2008_H	MOV [SI], AX	Move the content of AX to SI.
$200A_H$	INT 03_H	END OF PROGRAM.

RESULT:

Input:

Memory Location	Data
3000_H	$8E69_H$

Output:

Memory Location	Data
3002_H	$71 96_H$

Conclusion:-