**RAJSHAHI UNIVERSITY OF ENGINEERING AND TECHNOLOGY**

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| RUET 09 | |
| Lab report  Course No.: CSE 2202  Date of Experiment: 10.07.2019  Date of Submission: 17.07.2019 | |
| Submitted to:  Biprodip Pal  Assistant Professor,  Department of Computer Science and Engineering  Rajshahi University of Engineering and Technology | **Submitted by:**  Riyad Morshed Shoeb  Roll No: 1603013  Section: A  Department of Computer Science and Engineering  Rajshahi University of Engineering and Technology |

**Problem: Given two hexadecimal number, print their sum in binary. Reverse the second input and print their sun in binary.**

**Code:**

.MODEL SMALL

.STACK 100H

.DATA

FIRST\_INPUT\_MSG DB 'ENTER FIRST HEXADECIMAL VALUE: $'

SECOND\_INPUT\_MSG DB 'ENTER SECOND HEXADECIMAL VALUE: $'

OUTPUT\_MSG DB 'OUTPUT IN BINARY: $'

FIRST\_INPUT\_DATA DW 0H

SECOND\_INPUT\_DATA DW 0H

.CODE

MAIN PROC

;DATA SEGMENT

MOV AX, @DATA

MOV DS, AX

;INPUT SEGMENT

;FIRST INPUT

;INPUT PROMPT

LEA DX, FIRST\_INPUT\_MSG

MOV AH, 9

INT 21H

MOV CX, 4

MOV AH, 1

FIRST\_INPUT:

INT 21H

MOV BL, AL ;NOT TO LOOSE THE DATA

CMP AL, 65

JL DATA\_PROCESS\_FIRST

SUB BL, 55 ;TO GET 10-15 FOR A-F

DATA\_PROCESS\_FIRST:

AND BL, 0FH ;TO LOOSE UNNECESSARY BITS EXCEPT THE LAST 4 BITS

SHL FIRST\_INPUT\_DATA, 4

OR FIRST\_INPUT\_DATA, BX

LOOP FIRST\_INPUT

;PRINT NEW LINE

MOV AH, 2

MOV DL, 0AH

INT 21H

MOV DL, 0DH

INT 21H

;SECOND INPUT

;INPUT PROMPT

LEA DX, SECOND\_INPUT\_MSG

MOV AH, 9

INT 21H

MOV CX, 4

MOV AH, 1

MOV DX, 0

SECOND\_INPUT:

INT 21H

MOV BL, AL ;NOT TO LOOSE THE DATA

CMP AL, 65

JL DATA\_PROCESS\_SECOND

SUB BL, 55 ;TO GET 10-15 FOR A-F

DATA\_PROCESS\_SECOND:

AND BL, 0FH ;TO LOOSE UNNECESSARY BITS EXCEPT THE LAST 4 BITS

SHL SECOND\_INPUT\_DATA, 4

OR SECOND\_INPUT\_DATA, BX

LOOP SECOND\_INPUT

;SUM SEGMENT

SUM\_SEGMENT:

MOV BX, FIRST\_INPUT\_DATA

MOV CX, SECOND\_INPUT\_DATA

ADD BX, CX

;PRINT NEW LINE

MOV AH, 2

MOV DL, 0AH

INT 21H

MOV DL, 0DH

INT 21H

;OUTPUT SECTION

;OUTPUT PROMPT

LEA DX, OUTPUT\_MSG

MOV AH, 9

INT 21H

MOV CX, 16

MOV AH, 2

JNC OUTPUT\_SECTION

MOV DL, 0

INT 21H

OUTPUT\_SECTION:

ROL BX, 1

JNC PRINT\_ZERO

PRINT\_ONE:

MOV DL, 31H

INT 21H

LOOP OUTPUT\_SECTION

PRINT\_ZERO:

MOV DL, 30H

INT 21H

LOOP OUTPUT\_SECTION

;RETURN CONTROL

MOV AH, 4CH

INT 21H

MAIN ENDP

END MAIN

**Output:**

