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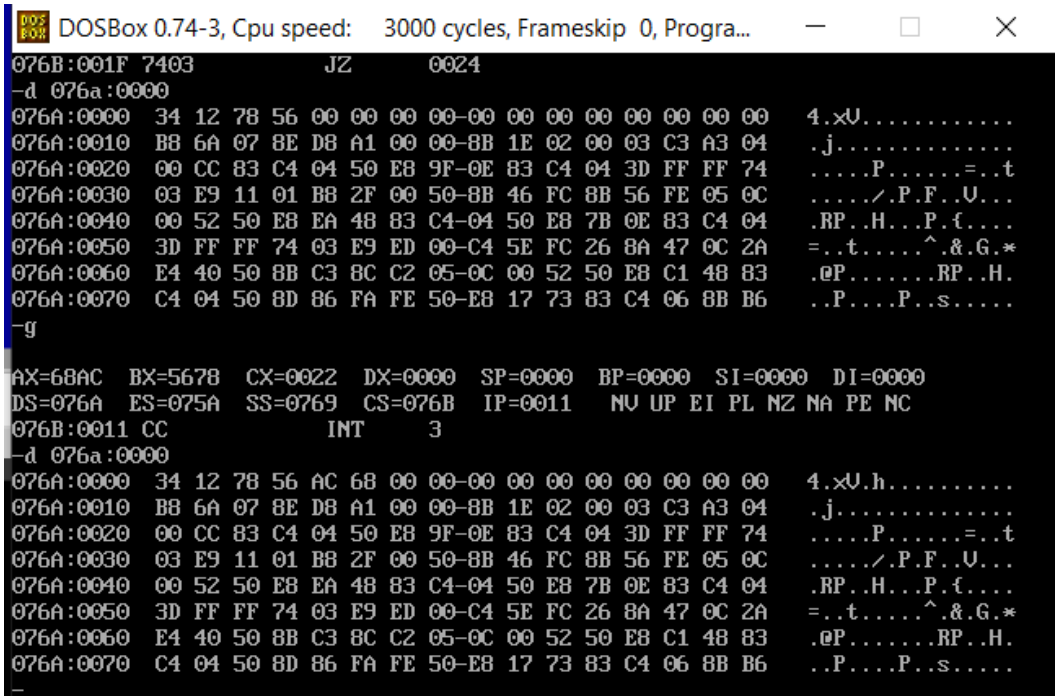
Batch: C

Aim: Implement various Arithmetic Operations through Assembly Language Programming for microprocessor 8086 (MASM).

Problem 1: Addition of 2 16-bit hexadecimal numbers

CODE:

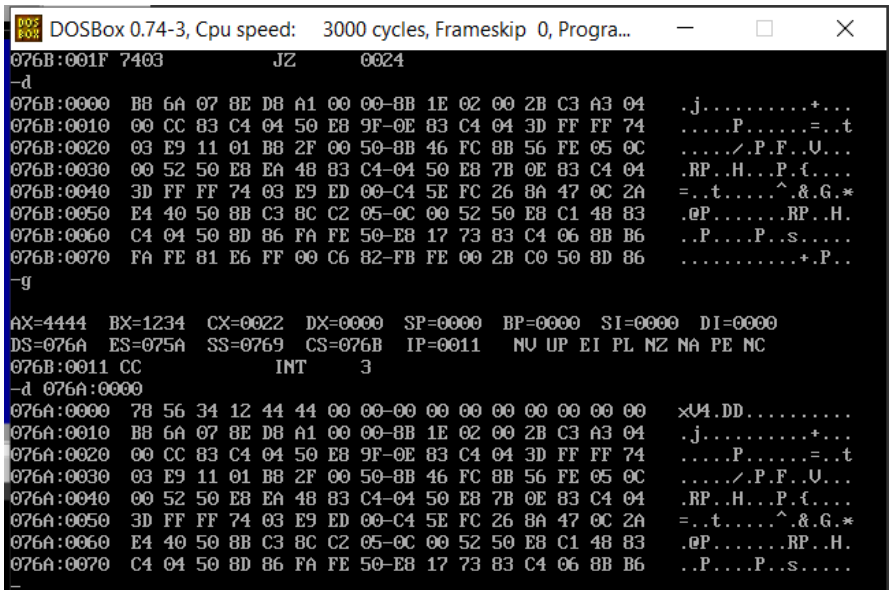
```
data segment
a dw 1234h
b dw 5678h
c dw ?
data ends

code segment
assume cs:code,ds:data
start:
mov ax,data
mov ds,ax       //moving data into code segment
mov ax,a        //moving the 1st number into ax register
mov bx,b        //moving the 2nd number into bx register
add ax,bx       //adding the two numbers
mov c,ax        //moving the addition into c
int 3
code ends
end start
```



Problem 2: Subtraction of 2 16-bit hexadecimal numbers

CODE:

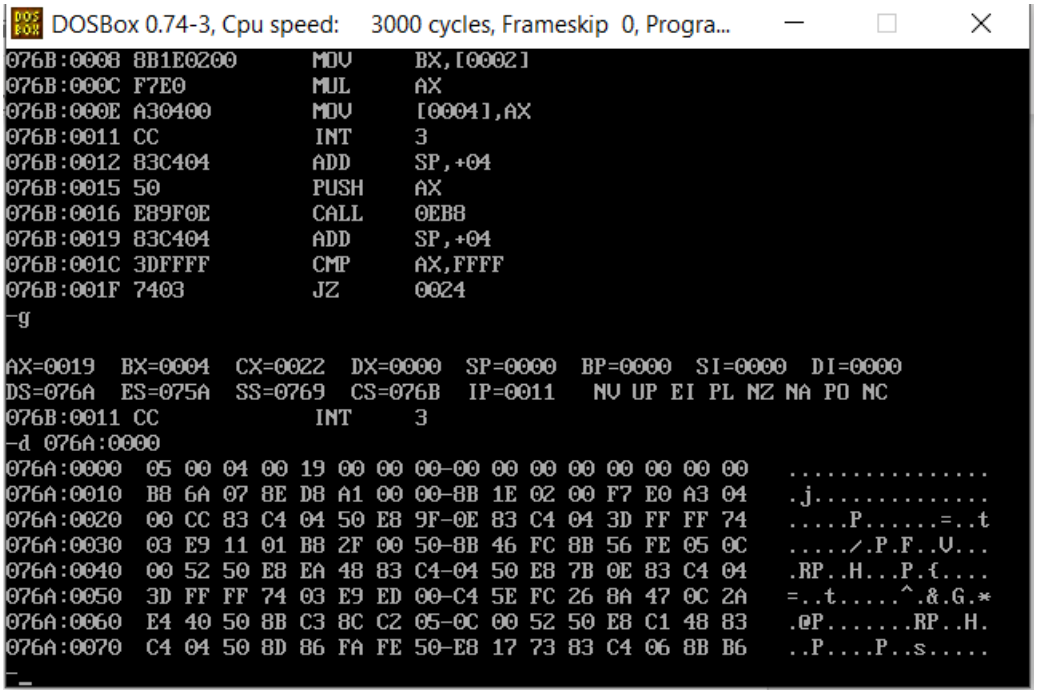
```
data segment
a dw 5678h
b dw 1234h
c dw ?
data ends

code segment
assume cs:code,ds:data
start:
mov ax,data
mov ds,ax       //moving data into code segment
mov ax,a        //moving the 1st number into ax register
mov bx,b        //moving the 2nd number into bx register
sub ax,bx       //subtracting the two numbers
mov c,ax        //moving the addition into c
int 3
code ends
end start
```



Problem 3: Multiplication of 2 numbers

CODE:

```
data segment
a dw 5h
b dw 4h
c dw ?
data ends
code segment
assume cs:code,ds:data
start:
mov ax,data
mov ds,ax       //moving data into code segment
mov ax,a        //moving the 1st number into ax register
mov bx,b        //moving the 2nd number into bx register
mul ax,bx       //multiplying the two numbers
mov c,ax        //moving the addition into c
int 3
code ends
end start
```



Result: Hence, we learn to perform different operations on hexadecimal numbers using 8086 microprocessor. Also, we learn to execute and compile the program using different commands.