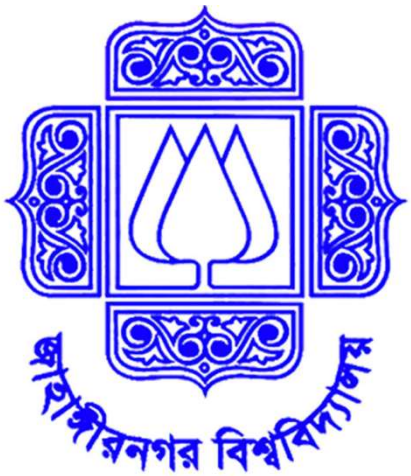
Jahangirnagar University (JU)



Institute of Information Technology

Lab Report-1

Assembly Language

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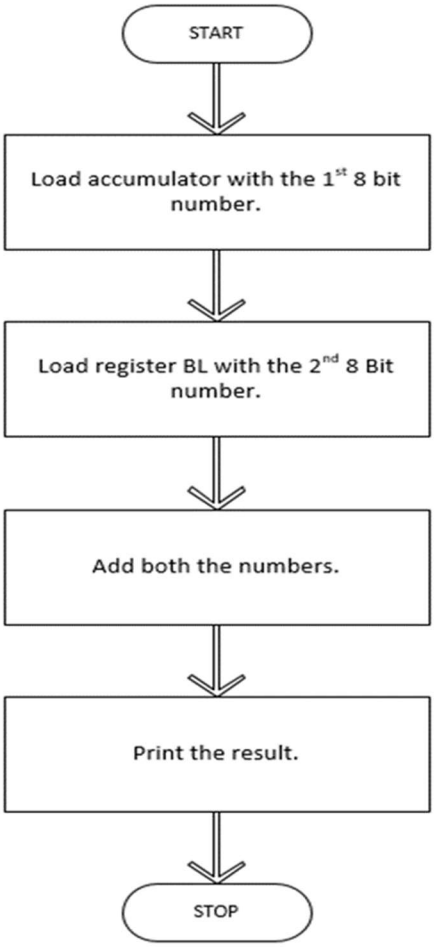
Experiment 1.

Title. Addition of two 8-bit numbers.

Algorithm.

Addition of two 8-bit numbers:
1. Input data from user to register AL (first number)
2. Move the first number from register AL to register BL.
3. Input data from user to register AL (second number)
4. Move the second number from register AL to register BH.
5. Add these two numbers (contents of register BL and register BH; store in register BL)
6. Subtract 48 from register BL
7. Store the result form register BL to register DL
8. Print
9. Stop

Flow chart.



Program Source Code.

```
org 100h
.data
a db 0ah,0dh,"enter 1st no :$"
b db 0ah,0dh,"enter 2nd no :$"
c db 0ah,0dh,"Adding two numbers :$"

.code
mov ax,@data
mov ds,ax
   ;input first number
 lea dx,a
 mov ah,09h
 int 21h

 mov ah,01
 int 21h
 lea dl,ah
 int 21h
 mov bl,al

  ;input second number
 lea dx,b
 mov ah,09h
 int 21h

 mov ah,01
 int 21h
 lea dl,ah
 int 21h
 mov bh,al

 sub bh,30h
 sub bl,30h

   ;third number
 lea dx,c
 mov ah,09h
 int 21h

 add bh,bl
 add bh,30h
 mov dl,bh

 mov ah,02
```

int 21h

ret

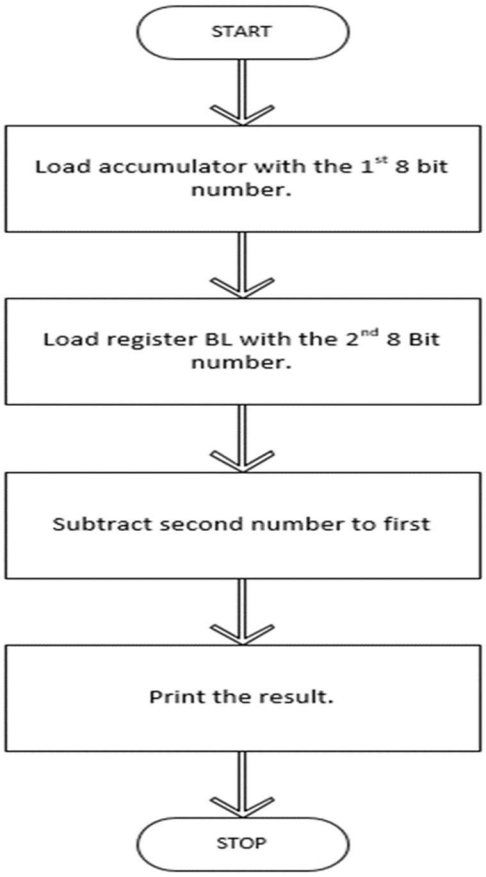
Sample input & output:

Experiment 2.
Title. Subtraction of two 8-bit numbers.

Algorithm.

1. Input data from user to register AL (first number)
2. Move the first number from register AL to register BL.
3. Input data from user to register AL (second number)
4. Move the second number from register AL to register BH.
5. Subtract these two numbers (contents of register BL and register BH; store in register BL)
6. Add 48 from register BL
7. Store the result form register BL to register DL
8. Print
9. Stop

Flow chart.



Program Source Code.

```
org 100h
.data


a db 0ah,0dh,"enter 1st no :$"
b db 0ah,0dh,"enter 2nd no :$"
c db 0ah,0dh,"Subtracing two numbers :$"

.code
mov ax,@data
mov ds,ax
   ;input first number
 lea dx,a
 mov ah,09h
 int 21h

 mov ah,01
```

```
int 21h
lea dl,ah
int 21h
mov bl,al


  ;input second number
 lea dx,b
mov ah,09h
int 21h

mov ah,01
int 21h
lea dl,ah
int 21h
mov bh,al

sub bh,30h
sub bl,30h

   ;third number
 lea dx,c
mov ah,09h
int 21h

sub bh,bl
add bh,30h
mov dl,bh

mov ah,02
int 21h


ret
```

Sample input & output: