

COMPUTER ORGANIZATION AND ARCHITECTURE

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CLASS: CSE-F

LAB TASK 3

- 1) Write a program in assembly language to perform subtraction of 8-bit data.

```
org 100h
```

```
num1 db 24h
```

```
num2 db 21h
```

```
start:
```

```
    mov al,num1
```

```
    sub al,num2
```

```
    mov bl,al
```

```
    mov ah,al
```

```
    and ah,0f0h
```

```
    shr ah,4
```

```
    add ah,30h
```

```
    cmp ah,39h
```

```
    jle print_first_digit
```

```
add ah,7
```

```
print_first_digit:
```

```
    mov dl,ah
```

```
    mov ah,02h
```

```
    int 21h
```

```
mov ah,bl
```

```
and ah,0Fh
```

```
add ah,30h
```

```
cmp ah,39h
```

```
jle print_second_digit
```

```
add ah,7
```

```
print_second_digit:
```

```
    mov dl,ah
```

```
    mov ah,02h
```

```
    int 21h
```

```
mov ah,4Ch
```

```
int 21h
```

```
OUTPUT:
```



2) Write an assembly language program to perform subtraction of 16-bit data.

```
org 100h
```

```
num1 dw 5678h
```

```
num2 dw 2024h
```

```
start:
```

```
mov ax, num1
```

```
sub ax, num2
```

```
mov bx, ax
```

```
mov ah, bh
```

```
shr ah, 4
```

```
add ah, 30h
```

```
cmp ah, 39h
```

```
jle print_high_nibble
```

add ah, 7

print_high_nibble:

mov dl, ah

mov ah, 02h

int 21h

mov ah, bh

and ah, 0fh

add ah, 30h

cmp ah, 39h

jle print_low_nibble

add ah, 7

print_low_nibble:

mov dl, ah

mov ah, 02h

int 21h

mov ah, bl

shr ah, 4

add ah, 30h

cmp ah, 39h

jle print_high_nibble2

add ah, 7

print_high_nibble2:

mov dl, ah

mov ah, 02h

int 21h

mov ah, bl

and ah, 0fh

add ah, 30h

cmp ah, 39h

jle print_low_nibble2

add ah, 7

print_low_nibble2:

mov dl, ah

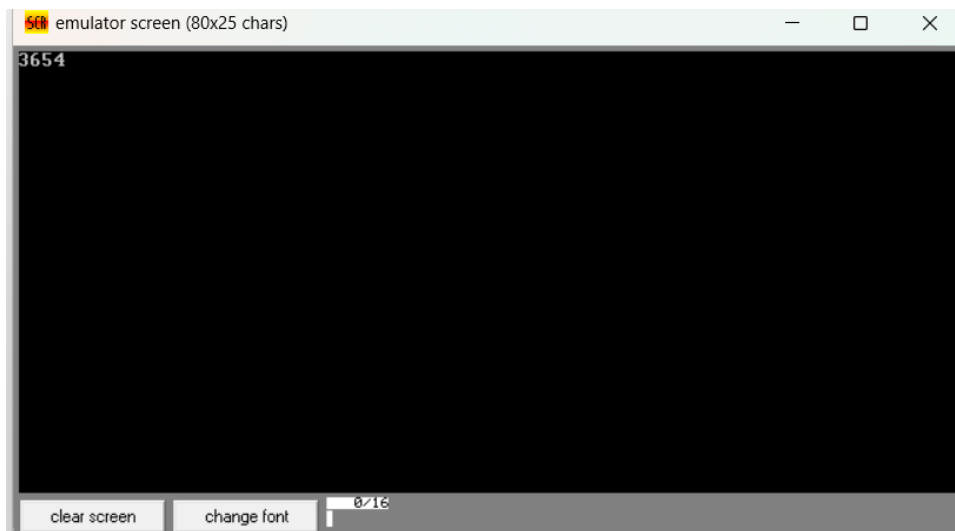
mov ah, 02h

int 21h

mov ah, 4ch

int 21h

OUTPUT:



GITHUB LINK: <https://github.com/vishnupriyavayya/COA-LAB-TASK-3>

The screenshot shows a GitHub repository page for 'COA-LAB-TASK-3' by user 'vishnupriyavayya'. The repository is public and has 1 branch and 0 tags. The main branch is 'main'. The repository contains two files: 'mycode1.lab task3.asm' and 'mycode2.lab task3.asm', both added via upload. The repository has 1 commit. The repository is currently being watched by 1 person and has 0 forks. The repository has no releases published and no packages published. The repository has a README file, which is currently empty and prompts the user to 'Add a README'.

COA-LAB-TASK-3 Public

main 1 Branch 0 Tags

Go to file Add file Code

vishnupriyavayya Add files via upload 9893846 · now 1 Commit

File	Added via	Time
mycode1.lab task3.asm	Add files via upload	now
mycode2.lab task3.asm	Add files via upload	now

README

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About

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Activity

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Releases

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Create a new release

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