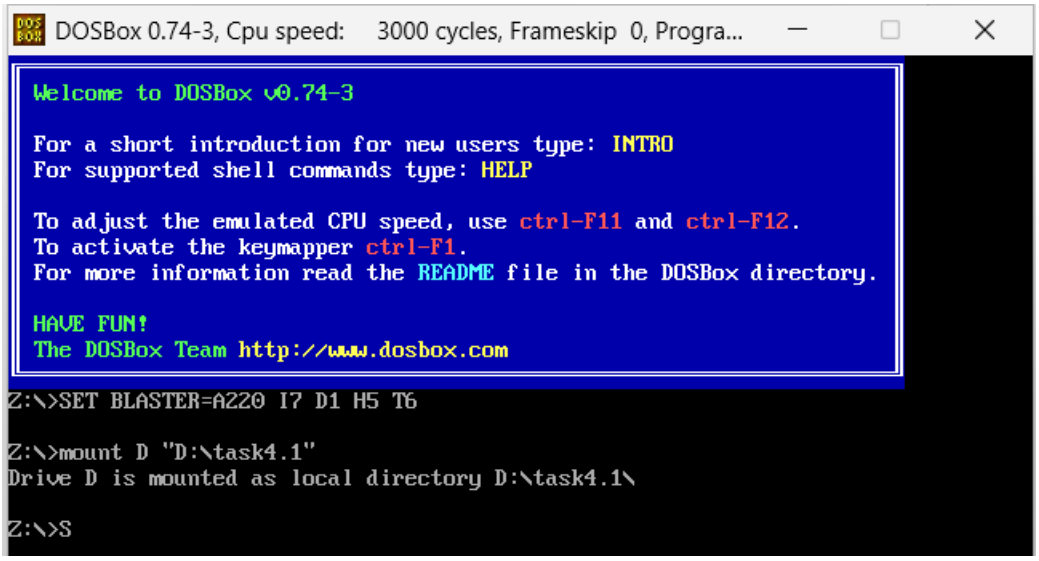
Creating Directories and Files in Assembly using DOS Interrupts

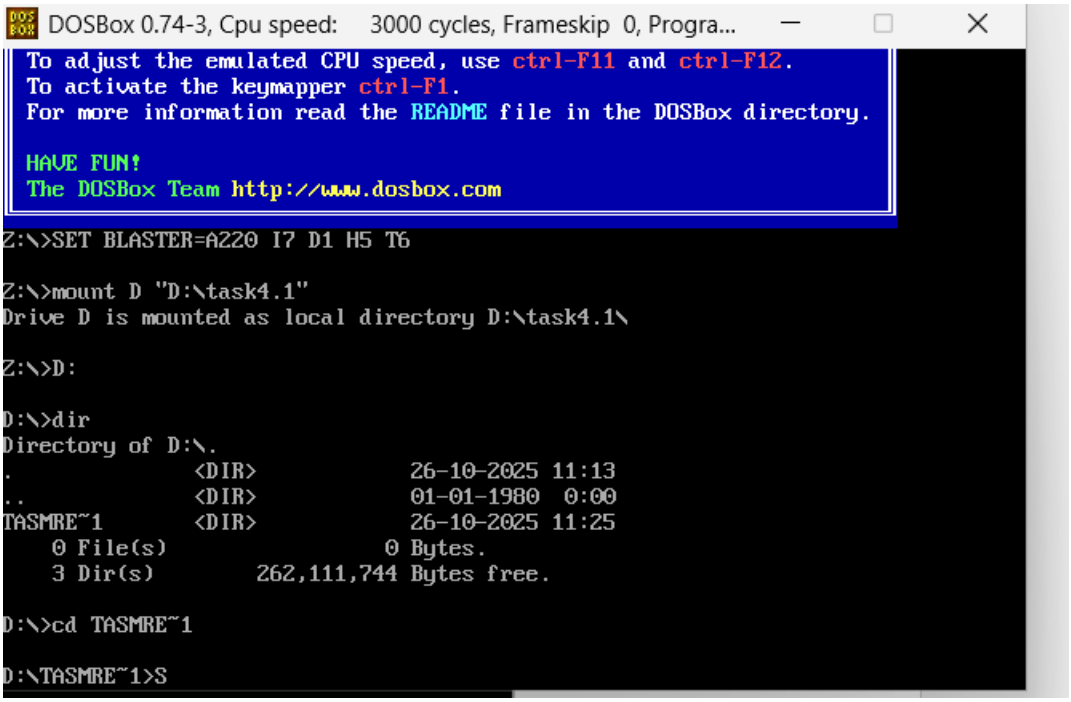
Submitted by:
Al Amin Hossain Nayem

Course: Systemic Programming

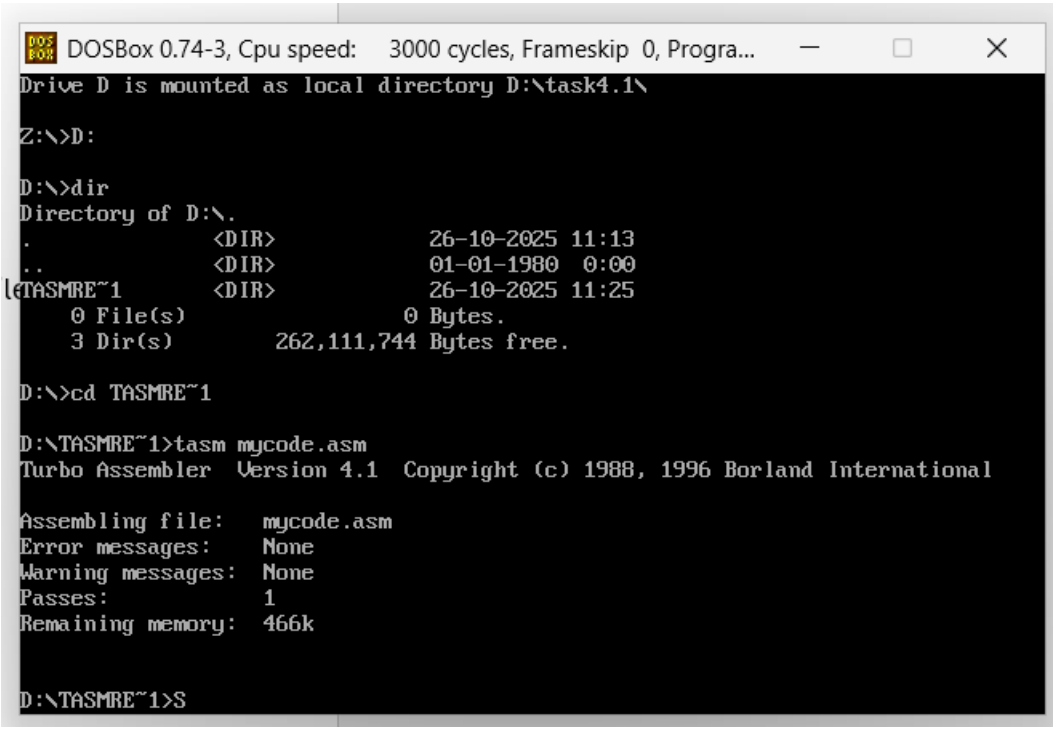
1)mount it on dosbox



2) go to mounted folder and open tasm file



3) successfully assembled my assembly source file mycode.asm into an object file called mycode.obj.



4) need to link the object file to create an executable .EXE file

5)now I will run the executable file

It will create folder name as AL as written in the asm code

1. Introduction

This report explains an Assembly language program written using Turbo Assembler (TASM) to create directories and text files using DOS interrupts. The program demonstrates how to use DOS interrupt 21h functions to perform file management operations such as creating directories, writing files, and displaying messages in DOS.

2. Objective

The objective of this program is to automate the creation of multiple directories and files and to write specific text content into those files using Assembly language.

3. Source Code

```
.model small
.stack 100h

.data
dir1 db 'Al', 0
dir2 db 'Al\Amin', 0
dir3 db 'Al\Amin\Hossain', 0

file1 db 'Al\info.txt', 0
file2 db 'Al\Amin\info.txt', 0
file3 db 'Al\Amin\Hossain\info.txt', 0

content db 'Al Amin Hossain Nayem', 13, 10
content_len equ $ - content

msg_success db 'Success! All directories and files created.', 13, 10, '$'
msg_error db 'Error occurred!', 13, 10, '$'

fileHandle dw ?

.code
main PROC
  mov ax, @data
  mov ds, ax

  lea dx, dir1
  mov ah, 39h
  int 21h

  lea dx, dir2
```

```
    mov ah, 39h
    int 21h

    lea dx, dir3
    mov ah, 39h
    int 21h

    lea dx, file1
    call create_write_file

    lea dx, file2
    call create_write_file

    lea dx, file3
    call create_write_file

    lea dx, msg_success
    mov ah, 9
    int 21h

    mov ax, 4C00h
    int 21h
main ENDP

create_write_file PROC
    push ax
    push bx
    push cx

    mov si, dx
    mov ah, 3Ch
    mov cx, 0
    int 21h
    jc create_error

    mov fileHandle, ax
    mov bx, ax
```

```
    mov ah, 40h
    mov cx, content_len
    lea dx, content
    int 21h
    jc write_error

    mov ah, 3Eh
    mov bx, fileHandle
    int 21h

    jmp file_done

create_error:
write_error:
file_done:
    pop cx
    pop bx
    pop ax
    ret
create_write_file ENDP

end main
```

4. Explanation of Code

The program starts with a small memory model setup and stack initialization. It defines directory and file paths as data strings and uses DOS interrupt 21h to create directories and files. The content 'Al Amin Hossain Nayem' is written to each file using function 40h. After successful execution, a message is displayed using function 09h, and the program terminates cleanly with function 4Ch.

5. Output

When the program is executed, it creates the following directory structure:

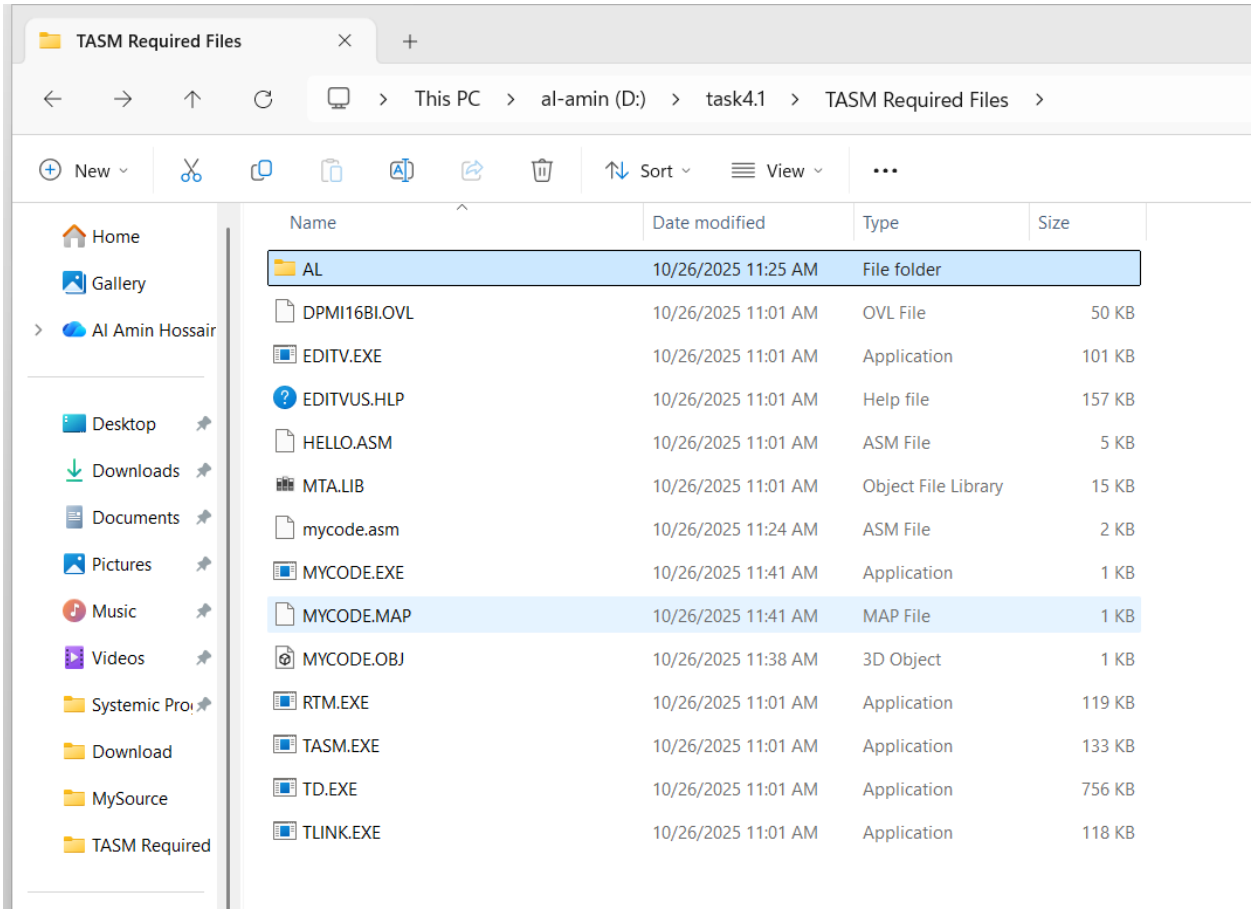
```
Al\
```

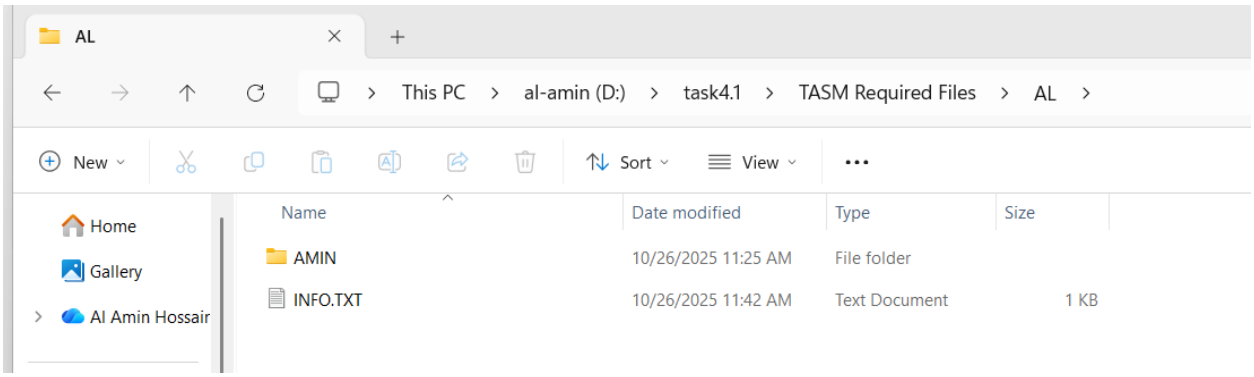
```
├── info.txt
└── Amin\
    ├── info.txt
    └── Hossain\
        └── info.txt
```

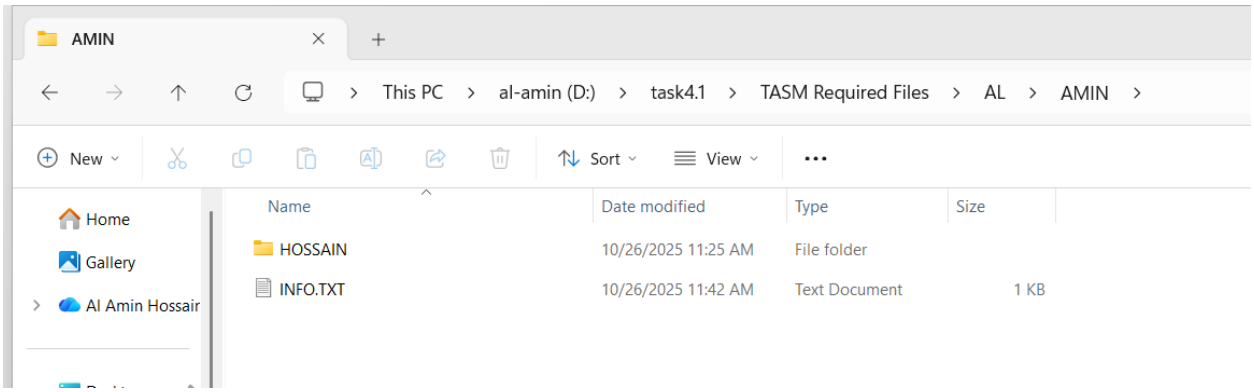
Each file contains the text: 'Al Amin Hossain Nayem'

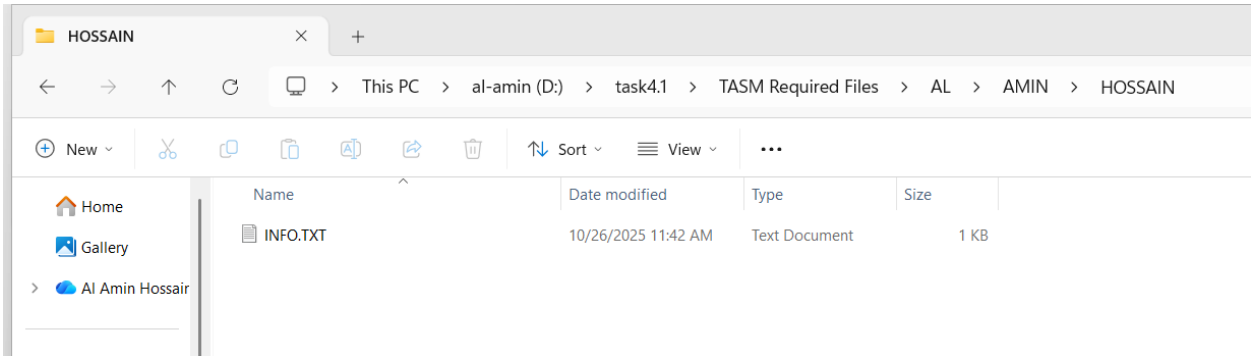
The output displayed on the screen is:

Success! All directories and files created.

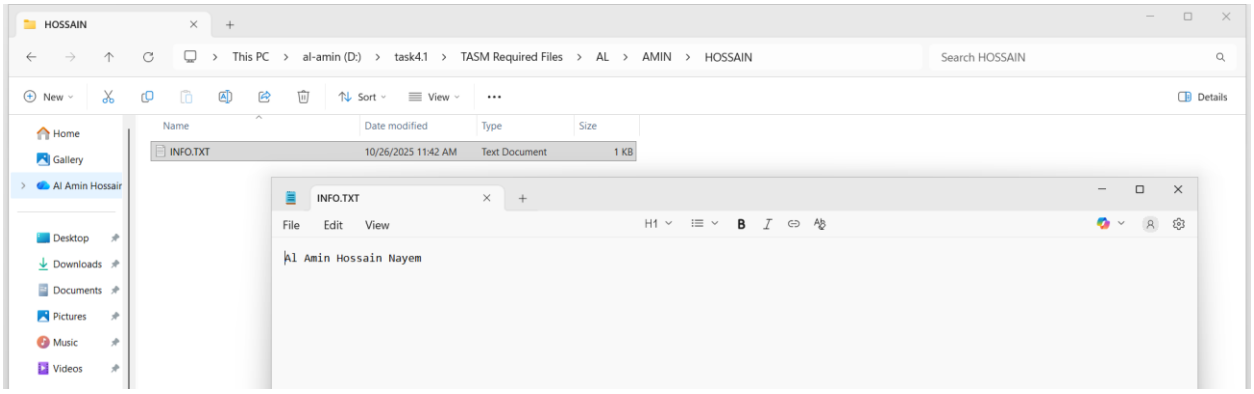








and all the txt file have my name on it



6. Conclusion

This program demonstrates the use of DOS interrupts for directory and file management in Assembly language. It provides a clear understanding of how low-level DOS functions can perform high-level file system operations. The successful creation of directories and files confirms that the interrupt calls were used correctly.