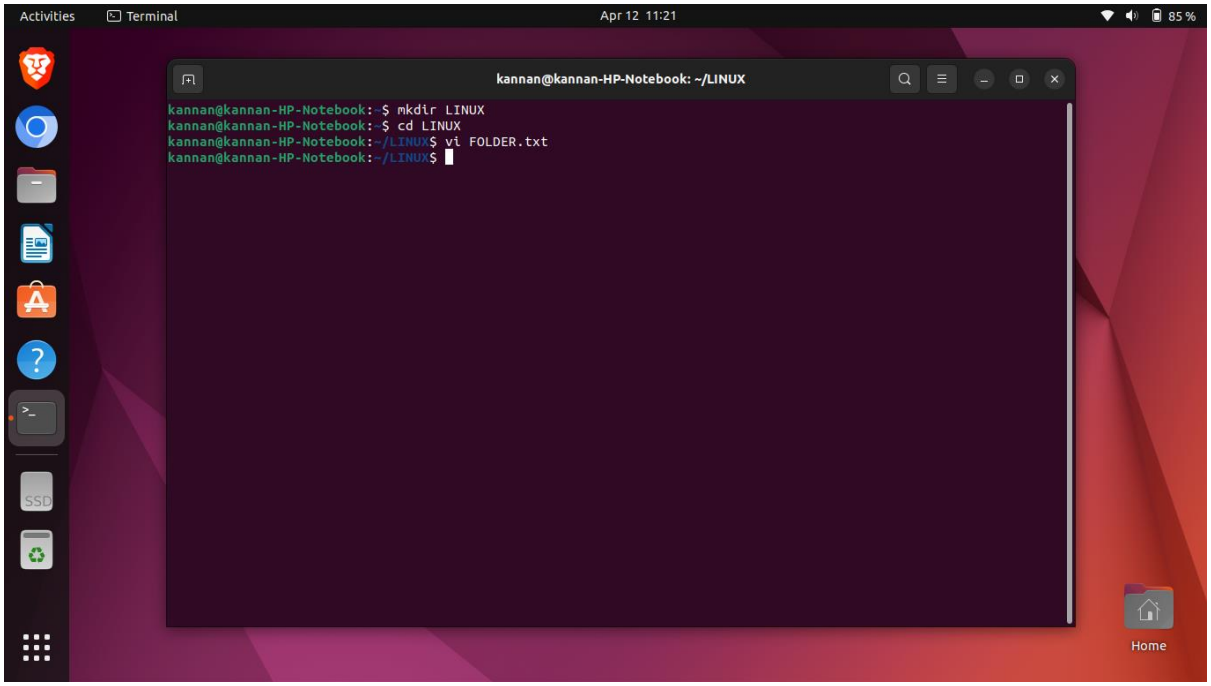
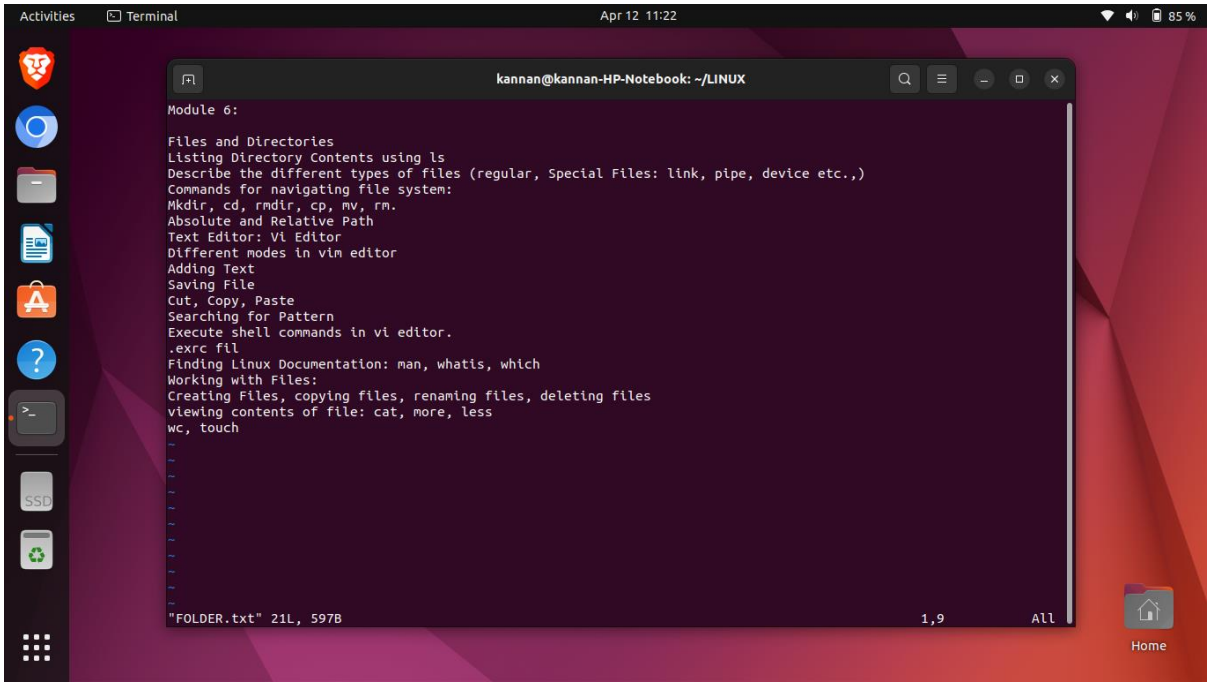
Module 6 Exercise

1. Create a file in a new directory using vi editor and ensure the filename doesn't exist already using shell commands.

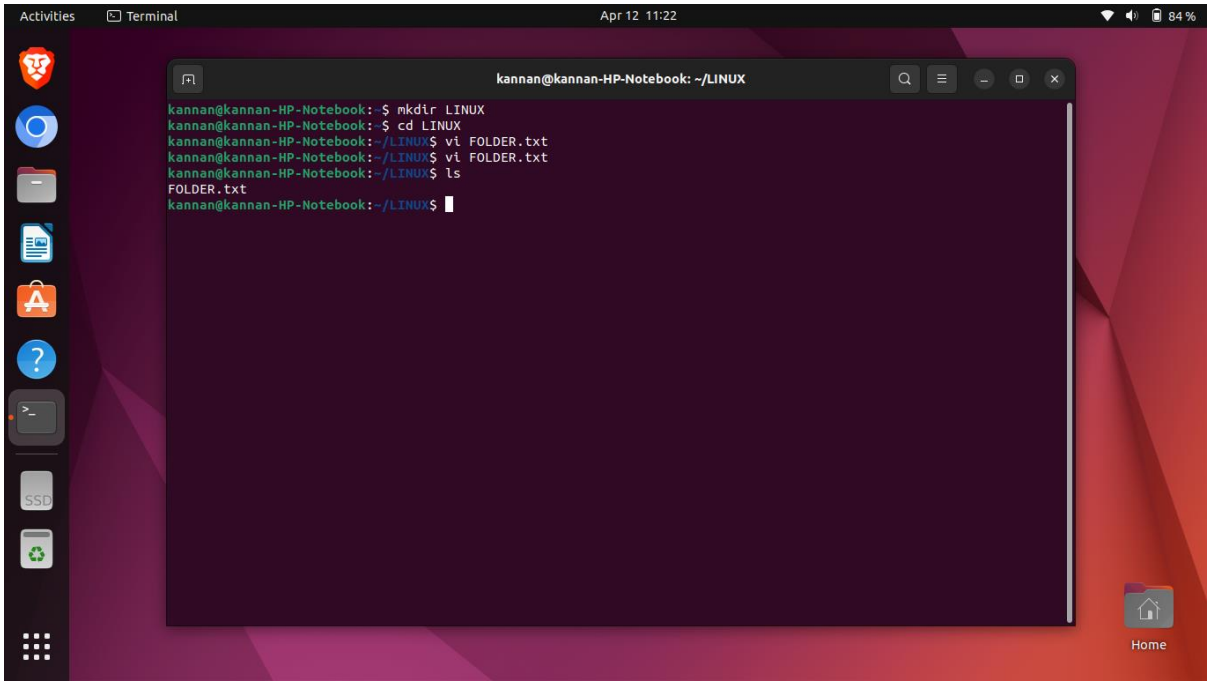
Step 1: Created a new folder and created a new file.



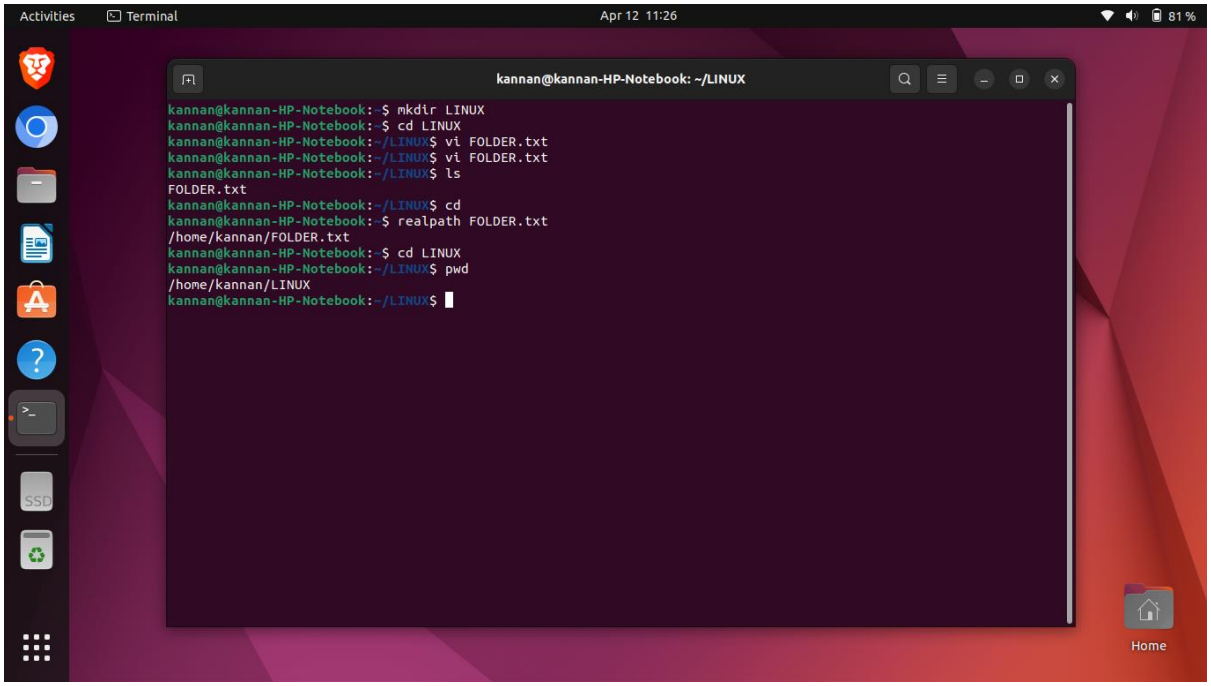
Step 2: Added some data in the created file.



Step 3: Made sure there is no other file with the similar name.



2. Get the Absolute path and relative path of the file you created in Question 1.

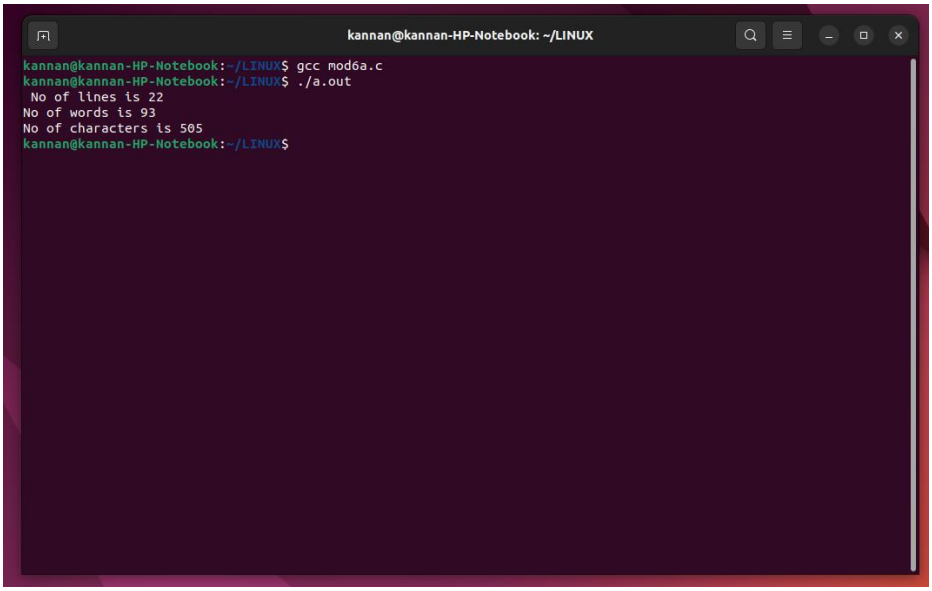


3. Select a random file and do the following:

a. Count the no. of lines, words in the file

```
#include<stdio.h>
#include<string.h>
int main()
{
        FILE *fp=fopen("file1.txt","r");
        char ch;
        int l=0,c=0,w=0;
        if(fp!=NULL)
        {
                while((ch=getc(fp))!=EOF)
                {
                        if(ch!=' ' && ch!='\n')
                                ++c;
                        if(ch==' ' || ch=='\n')
                                ++w;
                        if(ch=='\n')
                                ++l;
                }
                if(c>0)
                {
                        ++l;
                        ++w;
                }
        }
        else
        {
                        printf("File not found");
        }
                printf(" No of lines is %d\nNo of words is %d\nNo of characters
is %d\n",l,w,c);
                return 0;
}
```

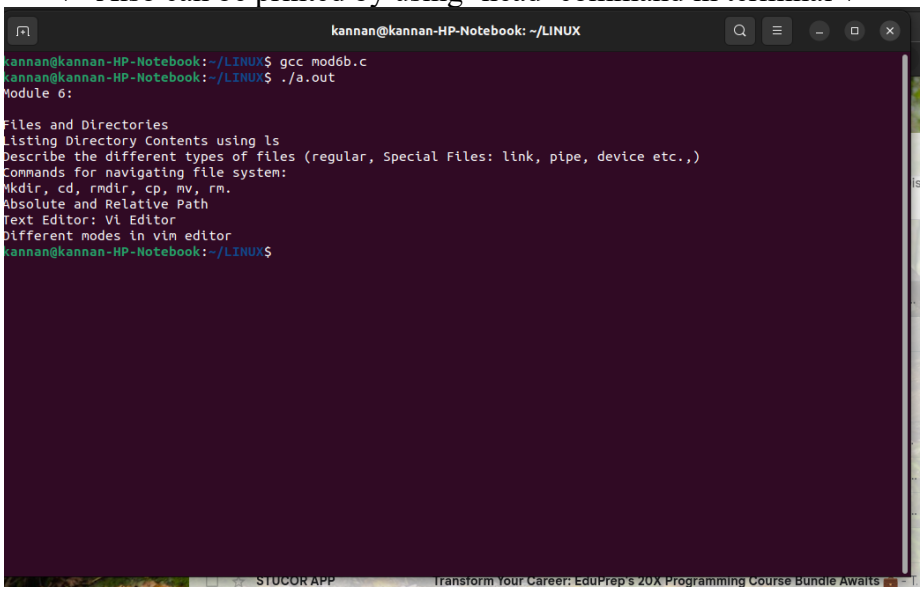
Output:



b. Display the list 10 lines of a file

```
#include<stdio.h>
#include<stdlib.h>
int main()
{
	FILE *fp=fopen("file1.txt","r");
	int c=0;
	char ch;
	if(fp!=NULL)
	{
		while((ch=getc(fp))!=EOF)
		{
			if(ch!='\n')
			{
				printf("%c",ch);
			}
			else
			{
				printf("\n");
				++c;
			}
			if(c==10)
			{
				break;
			}
		}
	}
	else
	{
		printf("File not found");
	}
	fclose(fp);
	return 0;
}
```

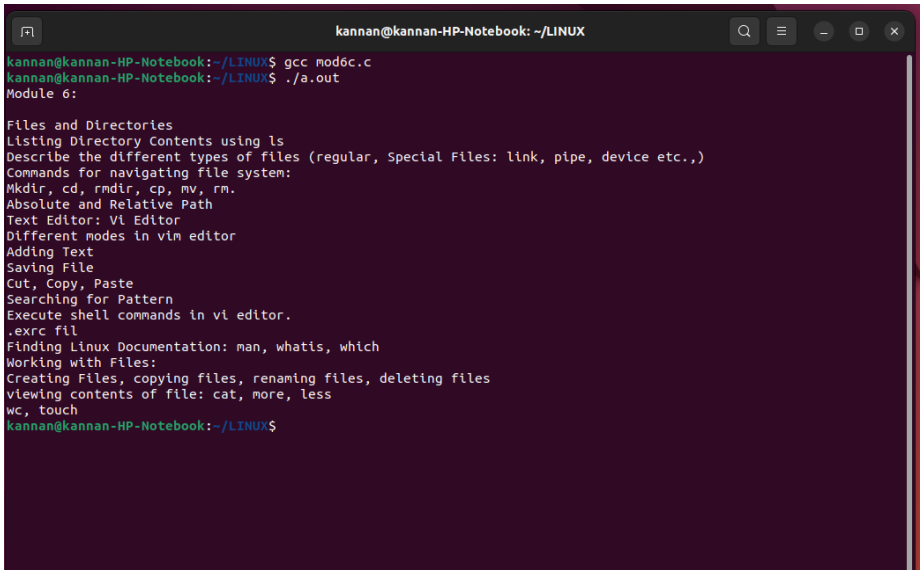
Output: /* Also can be printed by using 'head' command in terminal*/



c. Display the entire file

```
#include<stdio.h>
#include<stdlib.h>
int main()
{
        FILE *fp=fopen("file1.txt","r");
        char ch;
        if(fp!=NULL)
        {
        while((ch=getc(fp))!=EOF)
        {
                fputc(ch,stdout);
        }
        }
        else
        {
                printf("File not found");
        }
        return 0;
}
```

Output: (Also can be printed in the terminal using 'cat' command)



d. Search a word 'X' in the entire file and display the lines with it.

```
#include <stdio.h>
#include <string.h>
#define MAX_LINE_LEN 1000

int main()
{
   char filename[100], line[MAX_LINE_LEN];
```

```
    char word[] = "x";
    int line_num = 0;
    FILE *fp = fopen("file1.txt", "r");
    if (fp == NULL)
    {
       printf("File not found");
       return 1;
    }
    while (fgets(line, MAX_LINE_LEN, fp))
    {
       line_num++;
       if (strstr(line,word))
           {
           printf("Line %d: %s", line_num, line);
       }
    }

    fclose(fp);
    return 0;
}
```

Output: