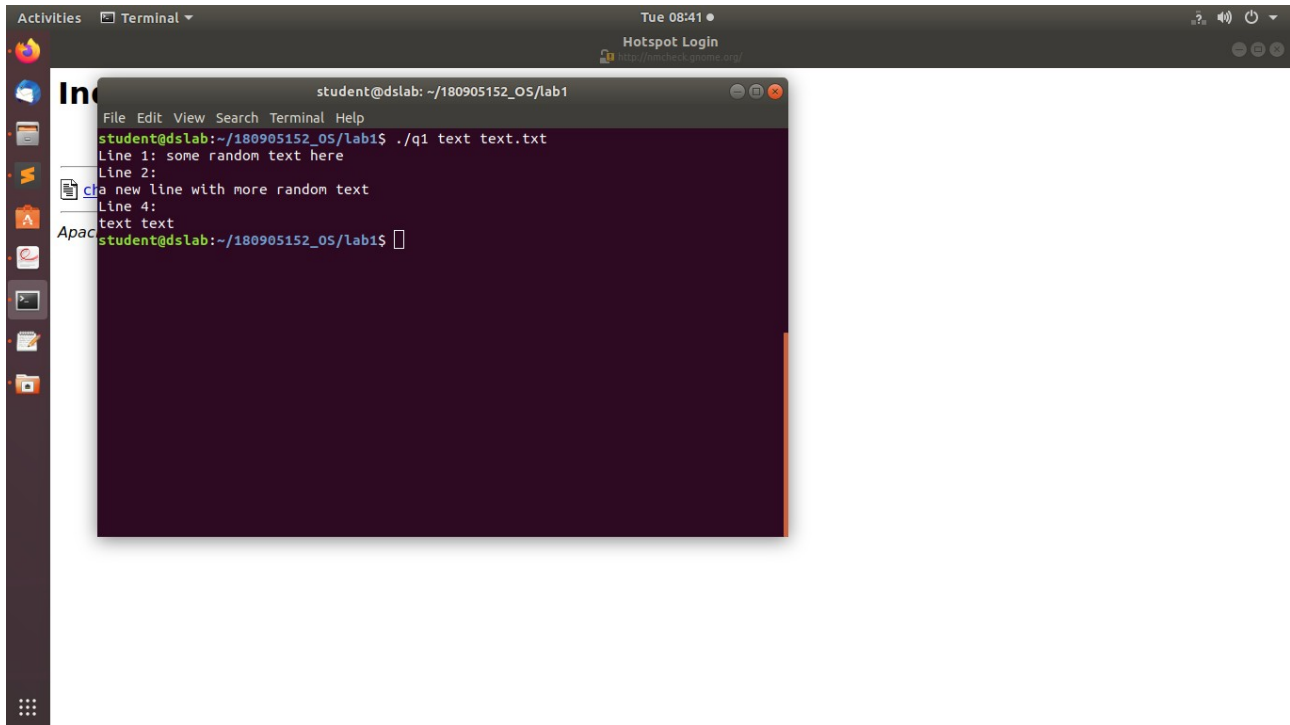


# Lab 1

Q1



Code:

```
#include<unistd.h>
#include<sys/stat.h>
#include<fcntl.h>
#include<stdlib.h>
#include<stdio.h>
#include<string.h>

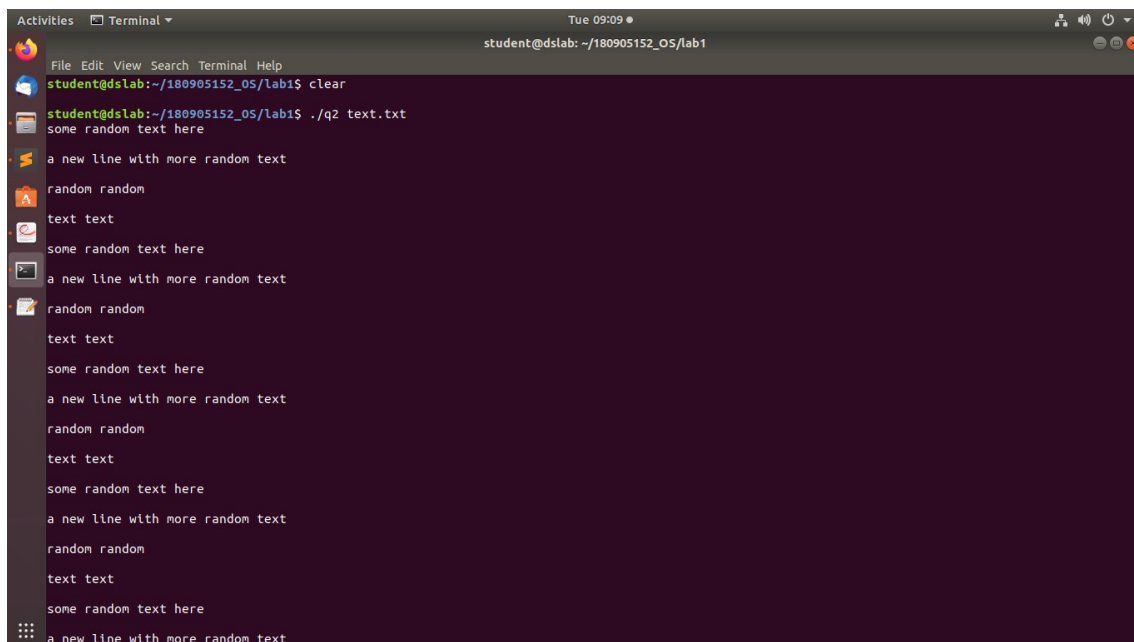
int main(int argc, char *argv[])
{
    char buf[500];
    char c;
    int i=0,in;
    if(argc<3){
        printf("Error!");
        exit(0);
    }
    in = open(argv[2],O_RDONLY);
    if(in==-1){
        printf("\nFile Not found!");
        exit(0);
    }
    int linecounter = 0;
    while(read(in,&c,sizeof(char))>0)
    {
```

```

        if(c=='\n')
        {
            i=0;
            linecounter++;
            if(strstr(buf,argv[1])!=NULL)
            {
                printf("Line %d: ",linecounter);
                printf("%s \n",buf);
            }
            memset(buf, 0, sizeof(buf));
        }
        buf[i] = c;
        i++;
    }
}

```

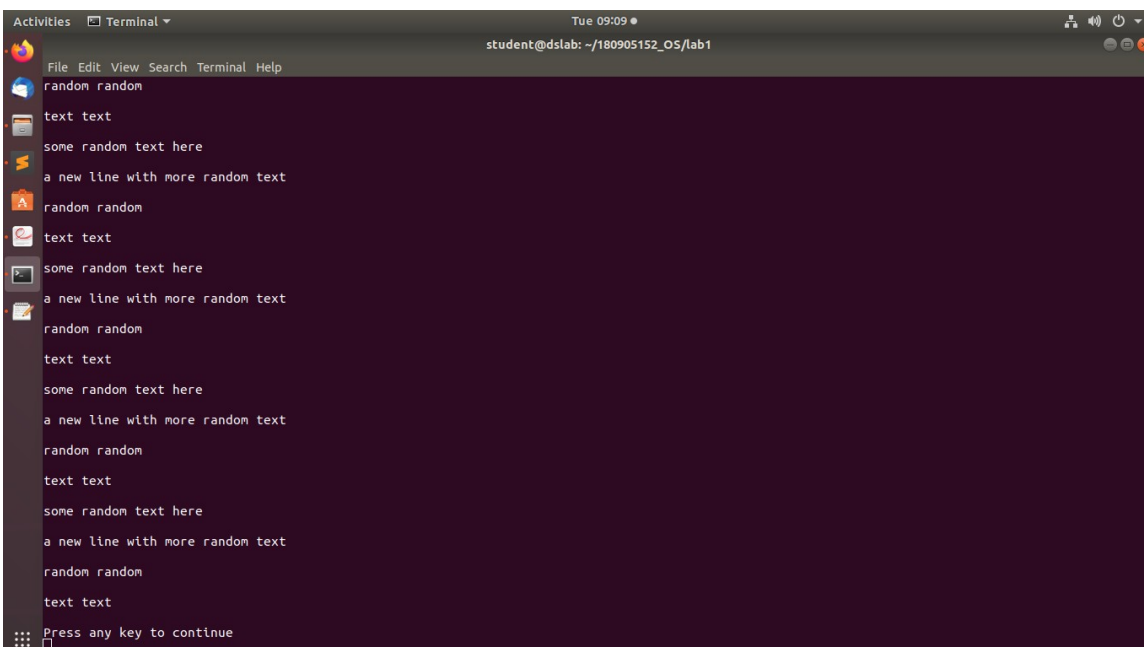
Q2



```

student@dslab: ~/180905152_OS/lab1
student@dslab:~/180905152_OS/lab1$ clear
student@dslab:~/180905152_OS/lab1$ ./q2 text.txt
some random text here
a new line with more random text
random random
text text
some random text here
a new line with more random text
random random
text text
some random text here
a new line with more random text
random random
text text
some random text here
a new line with more random text
random random
text text
some random text here
a new line with more random text

```



```

student@dslab: ~/180905152_OS/lab1
random random
text text
some random text here
a new line with more random text
random random
text text
some random text here
a new line with more random text
random random
text text
some random text here
a new line with more random text
random random
text text
some random text here
a new line with more random text
random random
text text
Press any key to continue

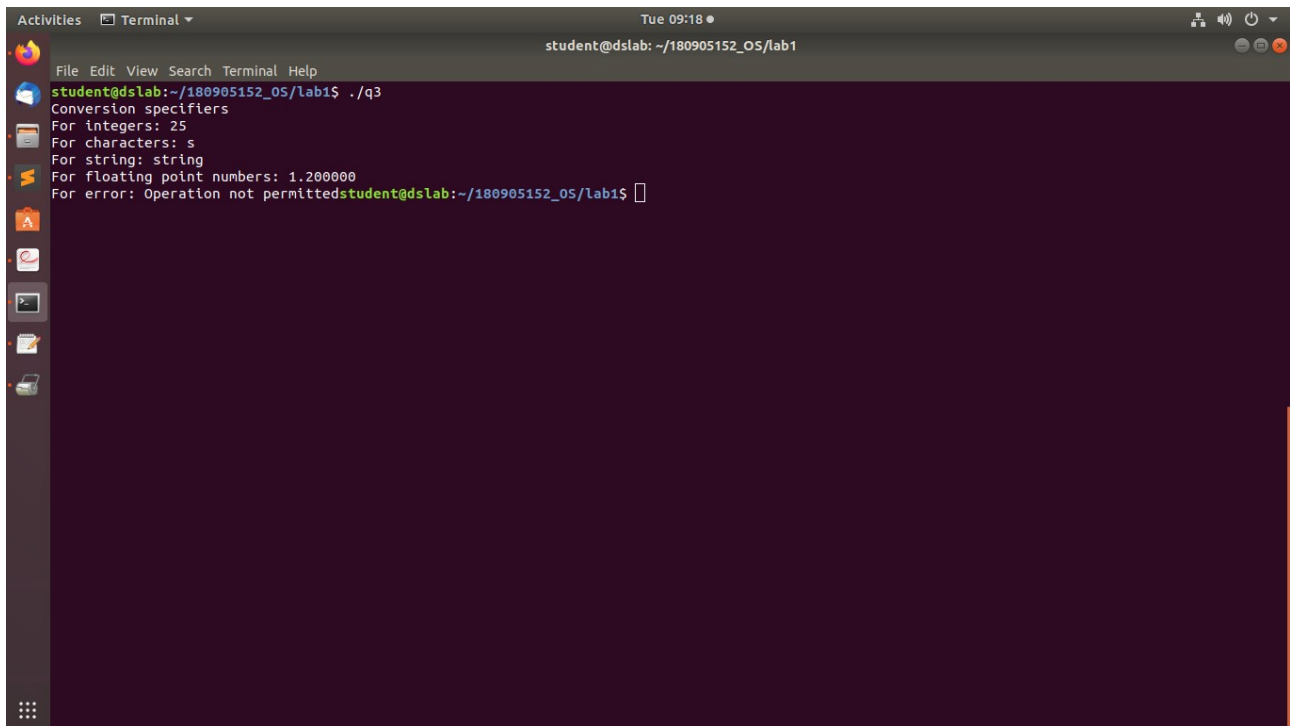
```

### Code:

```
#include<unistd.h>
#include<sys/stat.h>
#include<fcntl.h>
#include<stdlib.h>
#include<stdio.h>
#include <string.h>

int main(int argc, char* argv[])
{
    char buf[500];
    char c;
    int i=0,in;
    if(argc<2){
        printf("Error!");
        exit(0);
    }
    in = open(argv[1],O_RDONLY);
    if(in==-1){
        printf("\nFile Not found!");
        exit(0);
    }
    int linecounter = 0;
    while(read(in,&c,sizeof(char))>0)
    {
        if(c=='\n')
        {
            i=0;
            linecounter++;
            printf("%s \n",buf);
            memset(buf, 0, sizeof(buf));
            if(linecounter==20){
                printf("\nPress any key to continue\n" );
                getchar();
                linecounter=0;
            }
        }
        buf[i] = c;
        i++;
    }
}
```

Q3



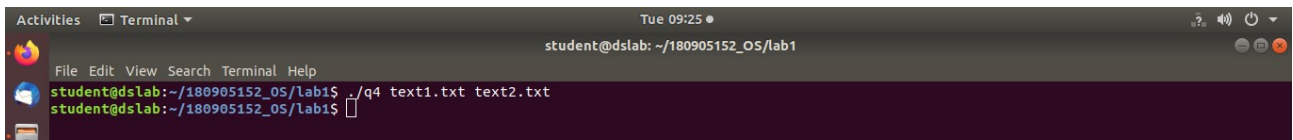
```
student@dslab: ~/180905152_OS/lab1$ ./q3
Conversion specifiers
For integers: 25
For characters: s
For string: string
For floating point numbers: 1.200000
For error: Operation not permittedstudent@dslab:~/180905152_OS/lab1$
```

Code:

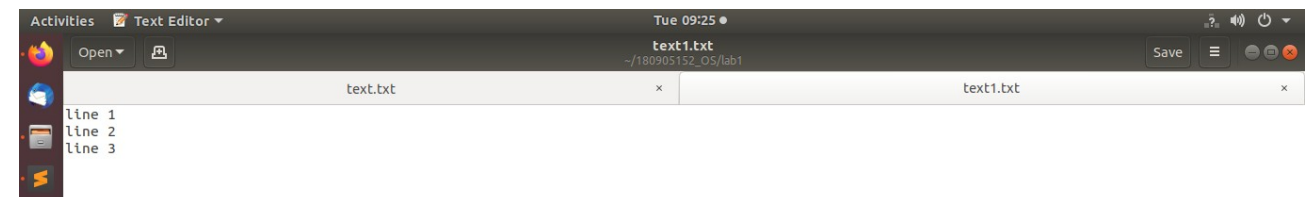
```
#include<stdio.h>
#include<errno.h>

void main()
{
    printf("Conversion specifiers\n");
    printf("For integers: %d\n",25);
    printf("For characters: %c\n",'s');
    printf("For string: %s\n","string");
    printf("For floating point numbers: %f\n",1.2);
    errno = EPERM;
    printf("For error: %m");
}
```

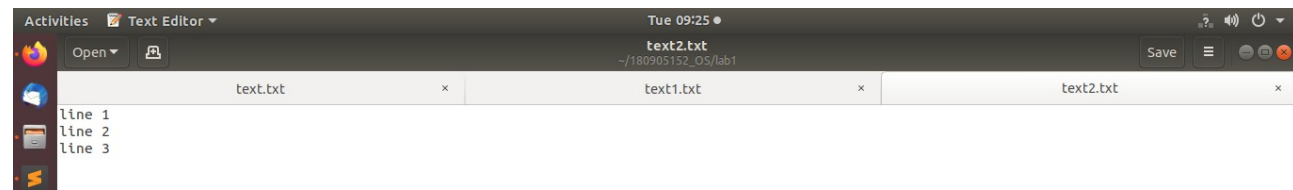
Q4



A terminal window titled "Terminal" showing the execution of a program. The prompt is "student@dslab: ~/180905152\_OS/lab1". The command entered is "./q4 text1.txt text2.txt". The output is empty.



A text editor window titled "Text Editor" showing the contents of "text1.txt". The file is open in a split view. The left pane shows "text.txt" with three lines: "line 1", "line 2", and "line 3". The right pane shows "text1.txt" which is currently empty.



A text editor window titled "Text Editor" showing the contents of "text2.txt". The file is open in a split view. The left pane shows "text.txt" with three lines: "line 1", "line 2", and "line 3". The right pane shows "text2.txt" which is currently empty.

Code:

```
#include<unistd.h>
#include<sys/stat.h>
#include<fcntl.h>
#include<stdlib.h>

int main(int argc, char *argv[])
{
    char c;
    int in, out;
    in = open(argv[1], O_RDONLY);
    out = open(argv[2], O_WRONLY|O_CREAT, S_IRUSR | S_IWUSR);
    while(read(in,&c,1) == 1)
        write(out,&c,1);
    exit(0);
}
```