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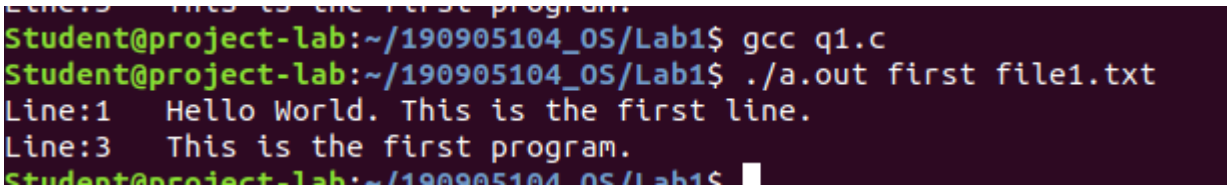
190905104
Lab 1

1)

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

int main(int argc, char *argv[])
{

   int sfd,i=0,k=0;
   char ch[100],chr;

          if(argc!=3)
          {
              printf("Insufficient Arguments\n");
              exit(1);
          }

          if( (sfd=open(argv[2],O_RDONLY))==-1)
          {
              printf("File not found\n");
              exit(1);
            }

                while((read(sfd,&chr,1))>0){
              if(chr!='\n'){
                 ch[i]=chr;
                 i++;
              }

                    else{
                          k++;
                          ch[i]='\0';
                          // printf("%s\n", ch);
                          i=0;
                          if(strstr(ch,argv[1])!=NULL){
                             printf("Line:%d \t %s \n", k, ch);
                          }
                    }
            }

   exit(0);

}
```



2)

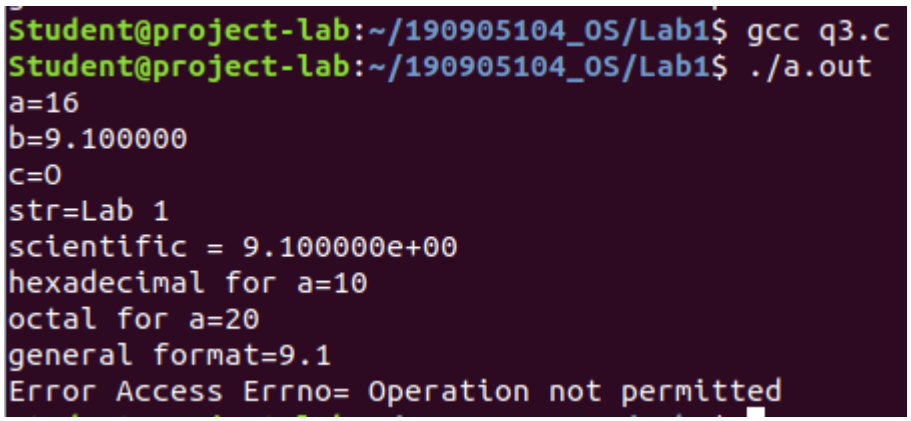
```
#include <stdio.h>
#include <unistd.h>
#include <sys/stat.h>
#include <fcntl.h>
#include <stdlib.h>
#include <string.h>

int main(int argc, char *argv[]){

	if(argc!=3){
		printf("Insufficient arguments\n");
		exit(1);
	}

	int f1;
	f1 = open(argv[1], O_RDONLY);
	if(f1 == -1){
		printf("File not found\n");
		exit(1);
	}
	int f2;
	f2 = open(argv[2], O_RDONLY);
	if(f2 == -1){
		printf("File not found\n");
		exit(1);
	}

	char c1[4096], c2[4096], c;
	int count = 0, i = 0, flag = 0;
	while(read(f1, &c, 1)){
		if(c!='\n'){

			c1[i++] = c;
		}
		else{
			c1[i++] = '\n';
			count++;
			if(count == 20){
				flag = 1;
				printf("File 1 done\n");
				printf("%s\n", c1);
				break;
			}
```

```
                }
        }
        if(flag == 0){
                printf("File 1 done\n");
                printf("%s\n", c1);
        }
        close(f1);
        i = 0; count = 0; flag = 0;
        while(read(f2, &c, 1)){
                if(c!='\n'){

                        c2[i++] = c;
                }
                else{
                        c2[i++] = '\n';
                        count++;
                        if(count == 20){
                                flag = 1;
                                printf("File 2 done\n");
                                printf("%s\n", c2);
                                break;
                        }
                }
        }
        if(flag == 0){
                printf("File 2 done\n");
                printf("%s\n", c2);
        }
        close(f2);
        exit(0);
}
```

```
    read(in, buffer, 128);
Student@project-lab:~/190905104_OS/Lab1$ gcc q2.c
Student@project-lab:~/190905104_OS/Lab1$ ./a.out q3.c q4.c
File 1 done
#include<stdio.h>
#include<stdlib.h>
#include<errno.h>

int main(){
    int a = 16;
    float b = 9.1;
    char c = 'O';
    char str[] = "Lab 1";
    printf("a=%d b=%f c=%c str=%s hexadecimal for a=%x \n",a,b,c,str,a);
    errno=EPERM;
    printf("Error Access Errno= %m\n");
}
File 2 done
#include <stdio.h>
#include <unistd.h>
#include <sys/stat.h>
#include <fcntl.h>
#include <stdlib.h>
#include <string.h>

int main(int argc, char* argv[]){
        if(argc!=3){
            printf("Insufficient Arguments\n");
        exit(1);
        }
        int in, out;
        char c;
        char buffer[128];
    int nread;
        in=open(argv[1],O_RDWR);
    out=open(argv[2],O_WRONLY|O_CREAT, S_IRUSR|S_IWUSR);
    printf("Contents of first file\n");
    read(in, buffer, 128);
```

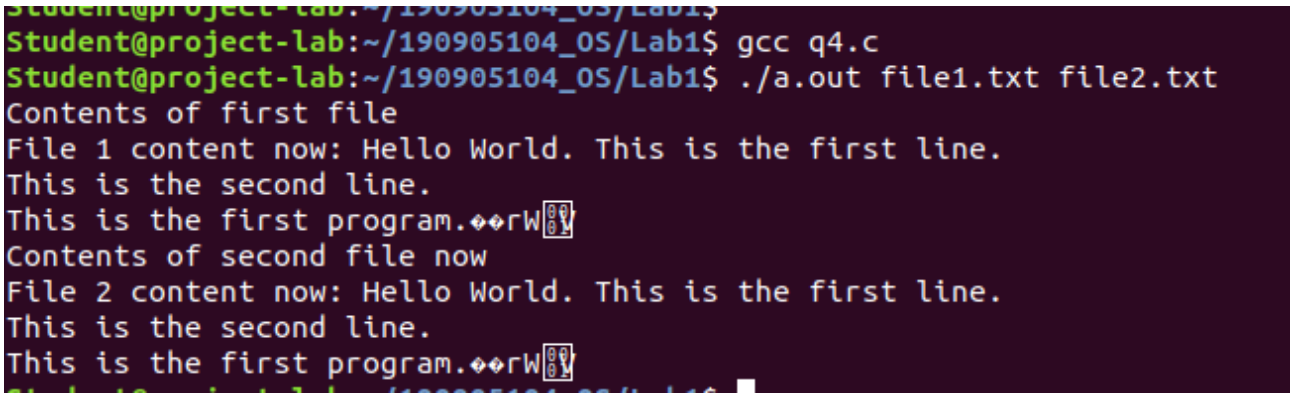
3)

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

int main(){
   int a = 16;
   float b = 9.1;
   char c = 'O';
   char str[] = "Lab 1";
   printf("a=%d \nb=%f \nc=%c \nstr=%s \nscientific = %e \nhexadecimal for a=%x \noctal for a=
%o\ngeneral format=%g\n",a,b,c,str,b,a,a,b);
   errno=EPERM;
   printf("Error Access Errno= %m\n");
}
```



4)

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

int main(int argc, char* argv[]){
        if(argc!=3){
           printf("Insufficient Arguments\n");
      exit(1);
        }
        int in, out;
        char c;
        char buffer[128];
   int nread;
        in=open(argv[1],O_RDWR);
   out=open(argv[2],O_WRONLY|O_CREAT, S_IRUSR|S_IWUSR);
   printf("Contents of first file\n");
   read(in, buffer, 128);
   printf("File 1 content now: %s\n", buffer);
   if(in == -1 || out == -1){
        printf("File not found\n");
        exit(1);
   }

   while(read(in, &c, 1) == 1){
        write(out, &c, 1);
   }
   printf("Contents of second file now\n");
   read(out, buffer, 128);
   printf("File 2 content now: %s\n", buffer);
   exit(0);
}
```


Student@project-lab:~/190905104_OS/Lab1$ gcc q4.c
Student@project-lab:~/190905104_OS/Lab1$ ./a.out file1.txt file2.txt
Contents of first file
File 1 content now: Hello World. This is the first line.
This is the second line.
This is the first program.
Contents of second file now
File 2 content now: Hello World. This is the first line.
This is the second line.
This is the first program.