OPERATING SYSTEMS LAB 1

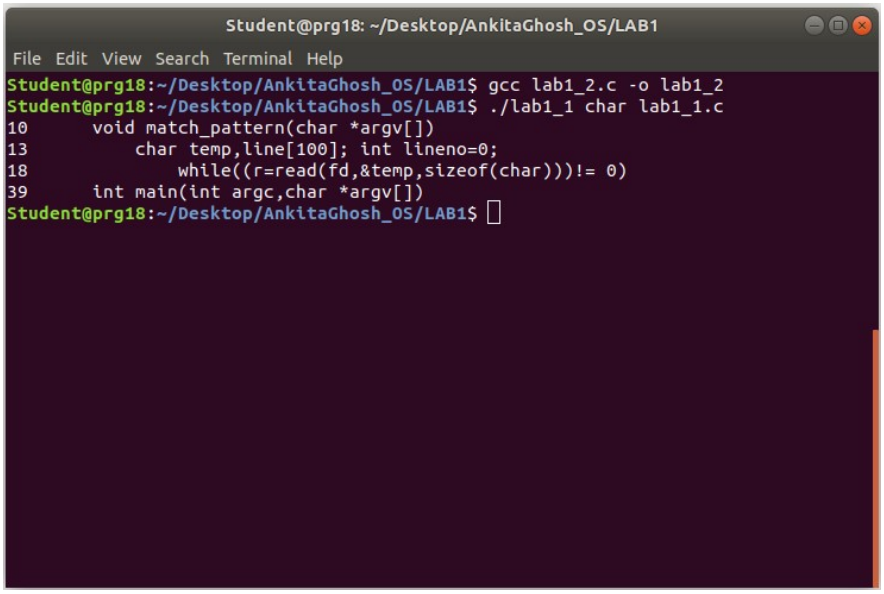
Q1.

PROGRAM:

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

void match_pattern(char *argv[])
{
   int fd,r,j=0;
   char temp,line[100]; int lineno=0;
   memset(line,0,sizeof(line));

   if((fd=open(argv[2],O_RDONLY)) != -1)
   {
      while((r=read(fd,&temp,sizeof(char)))!= 0)
      {
         if(temp!='\n')
         {
            line[j]=temp;
            j++;
         }
         else
         {
            lineno++;
            line[j]='\0';
            if(strstr(line,argv[1])!=NULL)
               printf("%d\t%s\n",lineno,line);
            memset(line,0,sizeof(line));
            j=0;
         }

      }
   }
}

int main(int argc,char *argv[])
{
   struct stat stt;
   if(argc==3)
   {
      if(stat(argv[2],&stt)==0)
         match_pattern(argv);
      else
```

```
        {
            perror("stat()");
            exit(1);
        }
    }
}
```

OUTPUT:



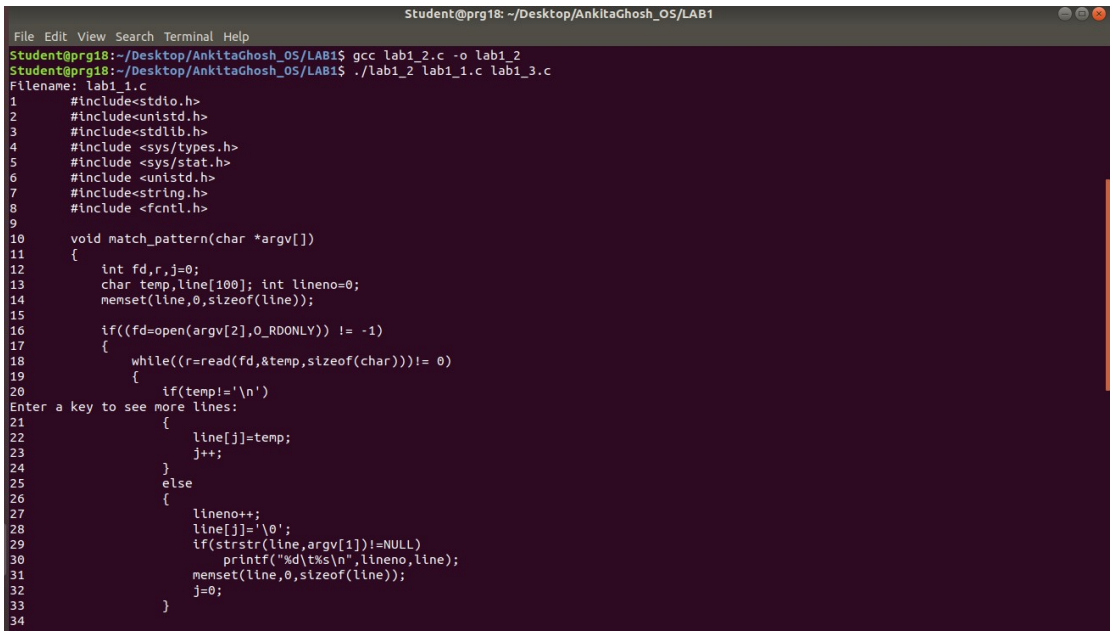
Q2.

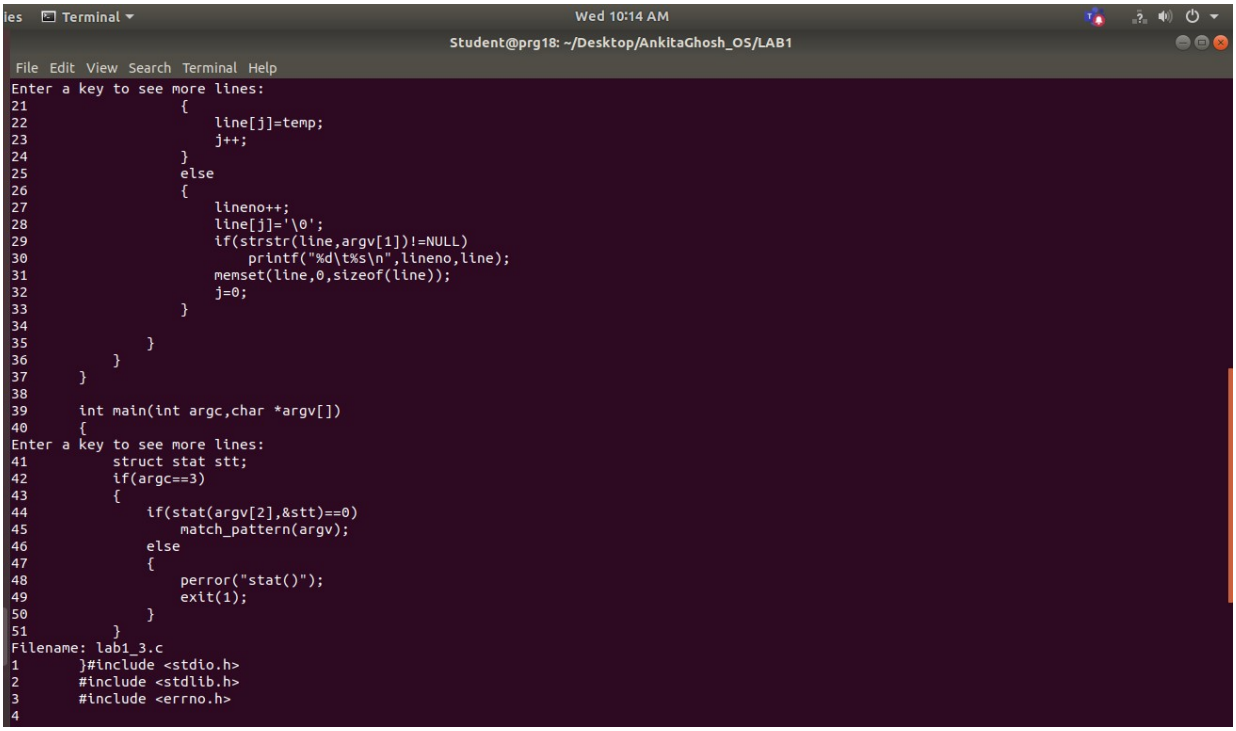
PROGRAM:

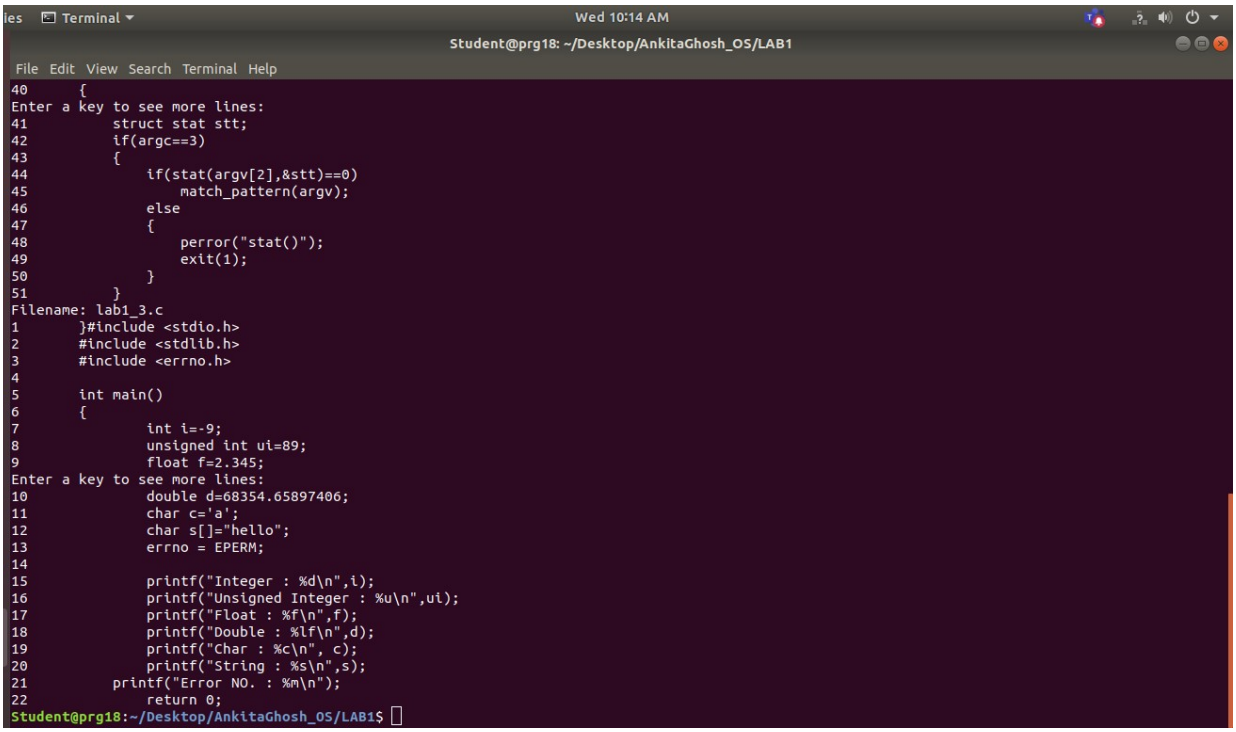
```
#include<stdio.h>
#include<unistd.h>
#include<stdlib.h>
#include <sys/types.h>
#include <sys/stat.h>
#include <unistd.h>
#include<string.h>
#include <fcntl.h>


void print_lines(int argc,char *argv[])
{
        int fd,r,j=0;
        int lineno=0; char temp,line[100];
        int count;
        for(int i=1;i<argc;i++)
        {
          if((fd=open(argv[i],O_RDONLY)) != -1)
    {
        printf("Filename: %s\n",argv[i]);
        count=0;
```

```
        while((r=read(fd,&temp,sizeof(char)))!= 0)
        {
           if(temp!='\n')
           {
              line[j]=temp;
              j++;
           }
           else
           {
              lineno++; count++;
              line[j]='\0';
              if(lineno%20==0)
              {
                printf("%d\t%s\n",count,line);
                printf("Enter a key to see more lines: ");
                char c = getchar();

              }
              else
              {
                printf("%d\t%s\n",count,line);
              }
              memset(line,0,sizeof(line));
              j=0;

           }}
     }}
}
int main(int argc,char *argv[])
{
   print_lines(argc,argv);
}
```

OUTPUT:







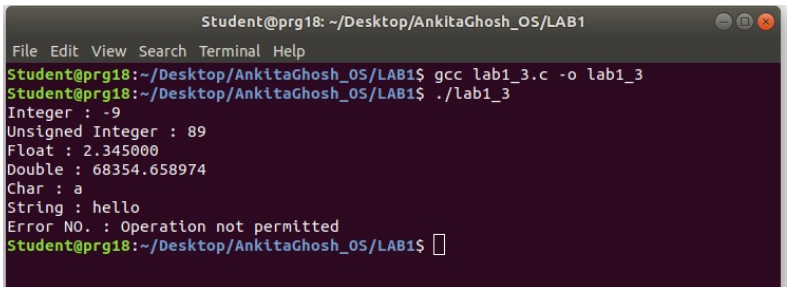
Q3.

PROGRAM:

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

```
int main()
{
	int i=-9;
	unsigned int ui=89;
	float f=2.345;
	double d=68354.65897406;
	char c='a';
	char s[]="hello";
	errno = EPERM;

	printf("Integer : %d\n",i);
	printf("Unsigned Integer : %u\n",ui);
	printf("Float : %f\n",f);
	printf("Double : %lf\n",d);
	printf("Char : %c\n", c);
	printf("String : %s\n",s);
   printf("Error NO. : %m\n");
	return 0;
}
```

OUTPUT:



Q4.

PROGRAM:

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

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

	char src[100], dst[100];

	printf("Enter source name: ");
	scanf(" %s", src);

	printf("Enter dest name: ");
	scanf(" %s", dst);
```

```
        int sfd = open(src, O_RDONLY);
        int dfd = open(dst, O_RDWR | O_CREAT, 0640);

        char buffer[1];
        while ((read(sfd, buffer, 1)) > 0) {
                write(dfd, buffer, 1);
        }

        return 0;

}
```

OUTPUT: