

Practical 2

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Aim: System calls for input output operation. To demonstrate a menu driven program which performs operations like create, write, read, search and delete a file.

Code:

```
#include<stdio.h>
#include <fcntl.h>
#include<sys/types.h>
#include<string.h>
#include<unistd.h>
int main(){
char data;
char buf[100],pat[10],temp[1024];
int ch1,ch=0,fd,i,n,m,charcount=0;
int ret;
char fname[10];
char *newline;
FILE *fp;
struct stat *sb;
do{
printf("Perform different operations on files\n");
printf("1. Create\n2. Read\n3. Write\n4. Read in reverse order\n5.
Search\n6. Delete");
printf("\nEnter the choice");
scanf("%d",&ch1);
switch(ch1)
{
case 1:
```

```
printf("Enter filename which you have to create :");
scanf("%s",fname);
fd=creat(fname,0777);
printf("\nFile Created\n");
printf("\nEnter the contents to write :\n");
scanf("%s",buf);
charcount=strlen(buf);
write(fd,buf,charcount);
close(fd);
break;
```

case 2:

```
printf("\nEnter file name which you have to open :");
scanf("%s",fname);
fd=open(fname,O_RDONLY,0777);
printf("\nFile opened.\n");
printf("\nThe contents are :\t");
n=lseek(fd,0,2);
printf("\n Size is: %d\n",n);
lseek(fd,0,0);
for(i=1;i<=n;i++){
read(fd,&data,1);
printf("%c",data);
}
close(fd);
break;
```

case 3:

```
printf("\nEnter filename which you have to open :");
scanf("%s",fname);
fd=open(fname,O_WRONLY|O_APPEND,0777);
printf("\n File opened.\n");
printf("\nEnter the contents to write :");
scanf("%s",buf);
charcount=strlen(buf);
```

```
write(fd,buf,charcount);
close(fd);
break;
```

case 4:

```
printf("\nEnter filename which you have to open :");
scanf("%s",fname);
fd=open(fname,O_RDONLY,0777);
printf("\n File opened.\n");
printf("\nThe contents in reverse order are :");
n=lseek(fd,0,2);
lseek(fd,-1,2);
while(n-->0)
{
    read(fd,&data,1);
    printf("%c",data);
    lseek(fd,-2,1);
}
close(fd);
break;
```

case 5:

```
printf("\n Enter file name :");
scanf("%s",fname);
printf("\nEnter the pattern to be searched :");
scanf("%s",pat);
fp=fopen(fname,"r");
printf("\nFile opened.");
while(fgets(temp,1000,fp)!=NULL)
{
    if(newline=strstr(temp,"\n"))
        *newline='\0';
    if(strstr(temp,pat)!=NULL)
    {
        printf("%s\n",temp);
    }
}
```

```
}  
}  
close(fd);  
break;  
  
case 6:  
printf("\nEnter file name which you have to delete :");  
scanf("%s",fname);  
unlink(fname);  
break;  
}  
printf("\nDo u want to continue? Enter your choice: 0=NO and 1=YES :\n");  
scanf("%d",&ch);  
}  
while(ch==1);  
}
```

Outputs:

```
rcoem@rcoem-Veriton-M200-H510:~$ gedit system.c
rcoem@rcoem-Veriton-M200-H510:~$ gcc system.c
rcoem@rcoem-Veriton-M200-H510:~$ ./a.out
Perform different operations on files
1. Create
2. Read
3. Write
4. Read in reverse order
5. Search
6. Delete
Enter the choice 1
Enter filename which you have to create :lab2

File Created

Enter the contents to write :
hello

Do u want to continue? Enter your choice: 0=NO and 1=YES :
1
Perform different operations on files
1. Create
2. Read
3. Write
4. Read in reverse order
5. Search
6. Delete
Enter the choice 2

Enter file name which you have to open :lab2

File opened.

The contents are :
Size is: 5
hello
Do u want to continue? Enter your choice: 0=NO and 1=YES :
1
```

Perform different operations on files

1. Create
2. Read
3. Write
4. Read in reverse order
5. Search
6. Delete

Enter the choice 3

Enter filename which you have to open :lab2

File opened.

Enter the contents to write : this is lab3

Do u want to continue? Enter your choice: 0=NO and 1=YES :

Perform different operations on files

1. Create
2. Read
3. Write
4. Read in reverse order
5. Search
6. Delete

Enter the choice

Enter filename which you have to open :

File opened.

Enter the contents to write :

Do u want to continue? Enter your choice: 0=NO and 1=YES :

1

Perform different operations on files

1. Create
2. Read
3. Write
4. Read in reverse order
5. Search
6. Delete

Enter the choice 4

Enter filename which you have to open :lab2

File opened.

The contents in reverse order are :sihtolleh

Do u want to continue? Enter your choice: 0=NO and 1=YES :

1

Perform different operations on files

1. Create
2. Read
3. Write
4. Read in reverse order
5. Search
6. Delete

Enter the choice 5

Enter file name :lab2

Enter the pattern to be searched :lab2

File opened.

Do u want to continue? Enter your choice: 0=NO and 1=YES :

1

```
Perform different operations on files
1. Create
2. Read
3. Write
4. Read in reverse order
5. Search
6. Delete
Enter the choice 6

Enter file name which you have to delete :lab2

Do u want to continue? Enter your choice: 0=NO and 1=YES :
1
Perform different operations on files
1. Create
2. Read
3. Write
4. Read in reverse order
5. Search
6. Delete
Enter the choice 2

Enter file name which you have to open :lab2

File opened.

The contents are :
Size is: -1

Do u want to continue? Enter your choice: 0=NO and 1=YES :
0
rcoem@rcoem-Veriton-M200-H510:~$
```