M.No	Date	IDX	PROGRAM	Sign & Marks
3		UNIX system calls		
		3.1	program for system calls of UNIX operating systems. (opendir, readdir, closedir). Also Simulate ls command in UNIX	
		3.2	Program to demonstrate the system calls of UNIX operating system. (fork, getpid, exit)	
		3.3	Write a program to simulate cp command in UNIX.	
		3.4	Write a program to simulate grep command in UNIX.	

Week 3 - Program 3.1

AIM : Write a program for system calls of UNIX operating systems. (opendir, readdir, closedir). Also Simulate ls command in UNIX

PROGRAM :

```
#include<stdio.h>
#include<dirent.h>
#include<stdlib.h>
struct dirent *dptr;
int main(int argc, char *argv[])
{
char buff[100];
DIR *dirp;
printf("\n\n Enter Directory Name:");
scanf("%s",buff);
if((dirp=opendir(buff))==NULL)
{
printf("The given directory does not exist");
exit(1);
}
while(dptr=readdir(dirp))
{
printf("%s\n",dptr->d_name);
}
closedir(dirp);
}
```

OUTPUT:

```
 Enter Directory Name:.
.
..
a.out
sample
main.c
```

Week 3 - Program 3.2

AIM : Write a Program to demonstrate the system calls of UNIX operating system. (fork, getpid, exit)

PROGRAM:

```
#include<stdio.h>
#include<unistd.h>
#include<stdlib.h>
int main()
{
int pid,pid1,pid2;
pid=fork();
if(pid==-1)
{
printf("ERROR IN PROCESS CREATION\n");
exit(1);
}
if(pid!=0)
{
pid1=getpid();
printf("\n the parent process ID is %d\n", pid1);
}
else
{
pid2=getpid();
printf("\n the child process ID is %d\n", pid2);
}
return 0;
}
```

OUTPUT:

```
the parent process ID is 5174

the child process ID is 5178
```

Week 3 - Program 3.3

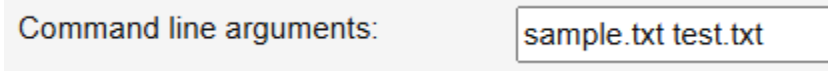
AIM : Write a C program to simulation cp command of UNIX

PROGRAM

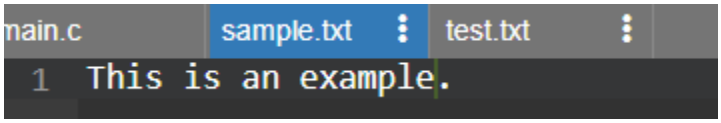
```
#include<stdio.h>
int main(int argc,char *argv[])
{
FILE *fp1,*fp2;
char ch;
fp2=fopen(argv[1],"r");
fp2=fopen(argv[2],"w");

if(fp1==NULL)
printf("unable to open a file",argv[1]);
else
{
while(!feof(fp1))
{
ch=fgetc(fp1);
fputc(ch,fp2);
}
fclose(fp1);
fclose(fp2);
fp2=fopen(argv[2],"r");
printf("\nContents of File %s are :\n",argv[2]);
while(!feof(fp2))
{
ch=fgetc(fp2);
printf("%c",ch);
}
fclose(fp2);
}
}
```

OUTPUT :

Run the program through command line arguments :



Contents of sample.txt :




```
Contents of File test.txt are :
This is an example.
```

Week 3 - Program 3.4

AIM : Write a program to simulate grep command in UNIX.

DESCRIPTION : grep Command in Linux/Unix with Examples

The 'grep' command stands for "global regular expression print". grep command filters the content of a file which makes our search easy.
It is a command-line utility to search the given pattern in a text file. The search pattern

Contents of file marks.txt are :

priya-66
suman-91
Abhi-78
Soumya-72
ankit-95
gaurav-90
sumit-98

$ cat marks.txt | grep 9 // This grep command filters all the lines that containing '9'.

suman-91
ankit-95
gaurav-90
sumit-98

It can also be run without pipe also.
Syntax: grep <search Word> <file name>
$ grep 9 marks.txt

suman-91
ankit-95
gaurav-90
sumit-98

grep options

1. grep –v : The 'grep -v' command displays lines not matching to the specified pattern.

Syntax:
grep -v <search pattern> <file Name>
Example:
$ grep -v 9 marks.txt
priya-66
Abhi-78
Soumya-72

The command "grep -v 9 marks.txt" displays lines which don't contain '9'.

2. grep -i: The 'grep -i' command filters output in a case-insensitive way.

Syntax:
grep -i <searchWord> <fileName>

Suppose sample.txt contains :

Apple is red
Mango is yellow
your dress color is RED
Red color suits for all.

$ grep -i red sample.txt

Apple is red
your dress color is RED
Red color suits for all.

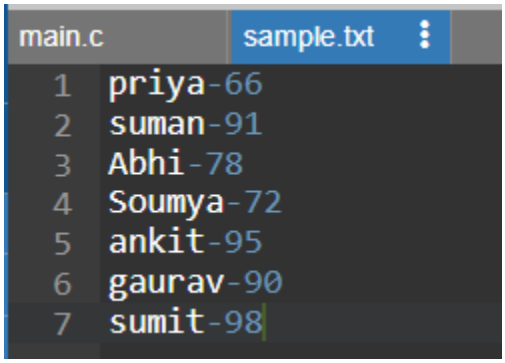
The command " grep -i red sample.txt " displays all lines that contain 'red' in any case.

PROGRAM

```
#include<stdio.h>
#include<string.h>
void main()
{
char fn[20],pat[20],temp[100];
FILE *fp;
printf("\nEnter file name : ");
scanf("%s",fn);
printf("Enter pattern to be searched : ");
scanf("%s",pat);
fp=fopen(fn,"r");
while(!feof(fp))
{
fgets(temp,80, fp);
if(strstr(temp,pat))
 printf("%s",temp);
}
fclose(fp);
}
```

OUTPUT:

Contents of the file sample.txt



```
Enter file name : sample.txt
Enter pattern to be searched : 9
suman-91
ankit-95
gaurav-90
sumit-98
```