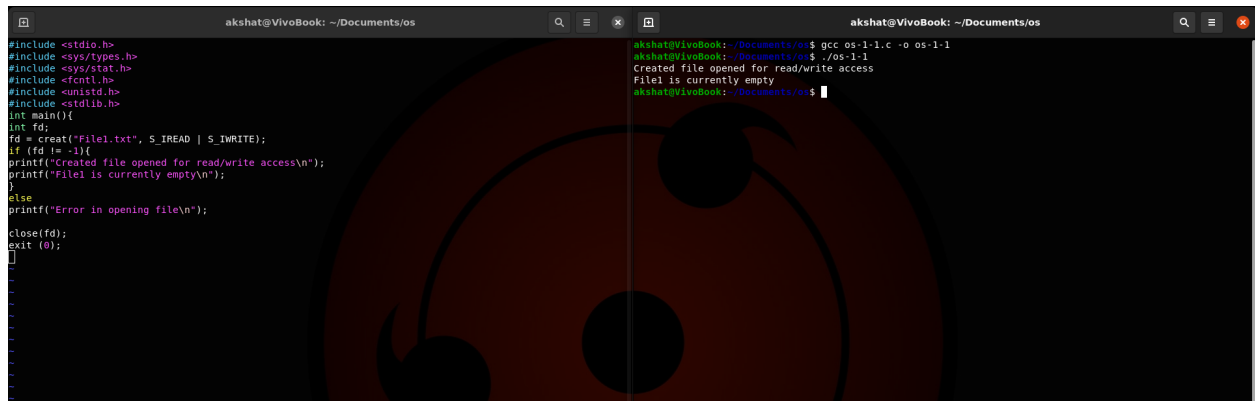


Name: Akshat Khosya
Roll No: 20106

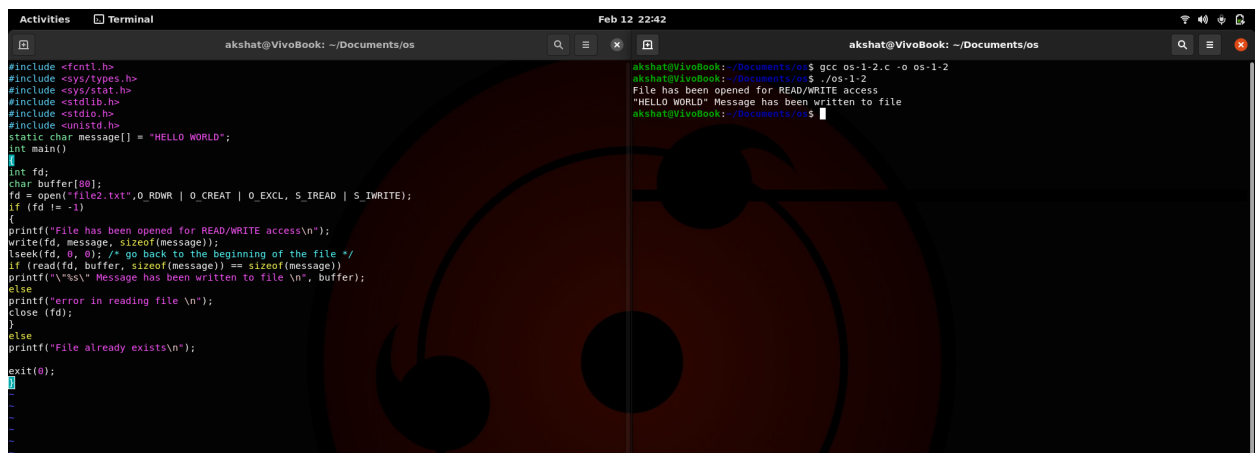
1.



```
akshat@VivoBook: ~/Documents/os
#include <stdio.h>
#include <sys/types.h>
#include <sys/stat.h>
#include <fcntl.h>
#include <unistd.h>
#include <stdlib.h>
int main(){
    int fd;
    fd = creat("file1.txt", S_IRREAD | S_IWRITE);
    if (fd != -1){
        printf("Created file opened for read/write access\n");
        printf("File is currently empty\n");
    }
    else
        printf("Error in opening file\n");
    close(fd);
    exit(0);
}

akshat@VivoBook:~/Documents/os$ gcc os-1-1.c -o os-1-1
akshat@VivoBook:~/Documents/os$ ./os-1-1
Created file opened for read/write access
File is currently empty
akshat@VivoBook:~/Documents/os$
```

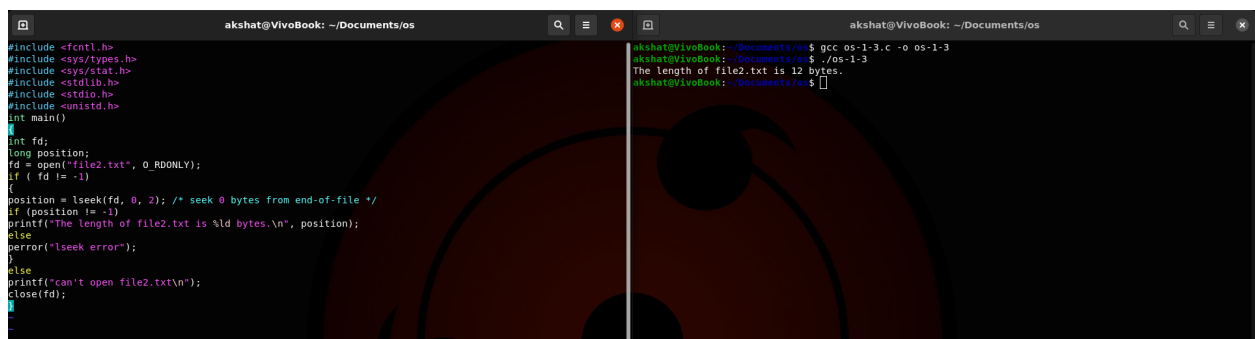
2.



```
Activities Terminal Feb 12 22:42
akshat@VivoBook: ~/Documents/os
#include <fcntl.h>
#include <sys/types.h>
#include <sys/stat.h>
#include <stdlib.h>
#include <stdio.h>
#include <unistd.h>
static char message[] = "HELLO WORLD";
int main()
{
    int fd;
    char buffer[80];
    fd = open("file2.txt", O_RDWR | O_CREAT | O_EXCL, S_IRREAD | S_IWRITE);
    if (fd != -1)
    {
        printf("File has been opened for READ/WRITE access\n");
        write(fd, message, sizeof(message));
        lseek(fd, 0, 0) /* go back to the beginning of the file */
        if (read(fd, buffer, sizeof(message)) == sizeof(message))
            printf("%s\n" Message has been written to file \n", buffer);
        else
            printf("error in reading file \n");
        close (fd);
    }
    else
        printf("File already exists\n");
    exit(0);
}

akshat@VivoBook:~/Documents/os$ gcc os-1-2.c -o os-1-2
akshat@VivoBook:~/Documents/os$ ./os-1-2
File has been opened for READ/WRITE access
"HELLO WORLD" Message has been written to file
akshat@VivoBook:~/Documents/os$
```

3.



```
akshat@VivoBook: ~/Documents/os
#include <fcntl.h>
#include <sys/types.h>
#include <sys/stat.h>
#include <stdlib.h>
#include <stdio.h>
#include <unistd.h>
int main()
{
    int fd;
    long position;
    fd = open("file2.txt", O_RDONLY);
    if ( fd != -1)
    {
        position = lseek(fd, 0, 2); /* seek 0 bytes from end-of-file */
        if (position != -1)
            printf("The length of file2.txt is %ld bytes.\n", position);
        else
            perror("lseek error");
    }
    else
        printf("can't open file2.txt\n");
    close(fd);
}

akshat@VivoBook:~/Documents/os$ gcc os-1-3.c -o os-1-3
akshat@VivoBook:~/Documents/os$ ./os-1-3
The length of file2.txt is 12 bytes.
akshat@VivoBook:~/Documents/os$
```

4.

```
Activities Terminal Feb 12 23:07
akshat@VivoBook: ~/Documents/os
// read system Call
#include<stdio.h>
#include<unistd.h>
#include<fcntl.h>
#include<stdlib.h>

int main()
{
    char c;
    int fd1 = open("sample.txt", O_RDONLY, 0);
    int fd2 = open("sample.txt", O_RDONLY, 0);
    read(fd1, &c, 1);
    read(fd2, &c, 1);
    printf("c = %c\n", c);
    exit(0);
}

akshat@VivoBook:~/Documents/os$ vi sample.txt
akshat@VivoBook:~/Documents/os$ gcc os-1-4.c -o os-1-4
akshat@VivoBook:~/Documents/os$ ./os-1-4
c = H
akshat@VivoBook:~/Documents/os$ cat sample.txt
Hello connections
akshat@VivoBook:~/Documents/os$
```

5.

```
Activities Terminal Feb 12 23:04
akshat@VivoBook: ~/Documents/os
// I/O system Calls
#include<stdio.h>
#include<string.h>
#include<unistd.h>
#include<fcntl.h>

int main (void)
{
    int fd[2];
    char buf1[12] = "hello world";
    char buf2[12];

    // assume foobar.txt is already created
    fd[0] = open("foobar.txt", O_RDWR);
    fd[1] = open("foobar.txt", O_RDWR);

    write(fd[0], buf1, strlen(buf1));
    write(1, buf2, read(fd[1], buf2, 12));

    close(fd[0]);
    close(fd[1]);

    return 0;
}

akshat@VivoBook:~/Documents/os$ touch foobar.txt
akshat@VivoBook:~/Documents/os$ touch foobar.txt
akshat@VivoBook:~/Documents/os$ ./os-1-5
hello worldakshat@VivoBook:~/Documents/os$ ls
file1.txt foobar.txt os-1-1 os-1-2 os-1-3 os-1-4 os-1-5
file2.txt foobar.txt os-1-1.c os-1-2.c os-1-3.c os-1-4.c os-1-5.c
akshat@VivoBook:~/Documents/os$ cat foobar.txt
hello worldakshat@VivoBook:~/Documents/os$
```