

**Ex no: 5**

**Date: 16-03-2024**

### **SYSTEM CALL TRACING**

**Aim:**

To write a C program and trace system calls used and print the same in ascending order using shell script. **Algorithm:**

1. Create a C program with an output statement helloworld.
2. Compile and trace system calls while executing the executable file.
3. The output of the system calls trace is put in hellotrace file.
4. Shellsript to read the contents of hellotrace file and print only system call name as output.

**Program Code:**

```
// hello.c
```

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

```
void main(){
```

```
    printf("Hello");
```

```
}
```

```
//systemcall.sh
```

```
cat hellotrace | cut -f1 -d "("
```

## Output:

```
(shanthosh@kali)-[~/os_lab]
$ gcc hello.c -o hello

(shanthosh@kali)-[~/os_lab]
$ strace -o hellotrace ./hello
HelloWorld

(shanthosh@kali)-[~/os_lab]
$ vi syscall.sh

(shanthosh@kali)-[~/os_lab]
$ cat hellotrace | cut -f1 -d"("
execve
brk
mmap
access
openat
newfstatat
mmap
close
openat
read
pread64
newfstatat
pread64
mmap
mmap
mmap
mmap
mmap
close
mmap
arch_prctl
set_tid_address
set_robust_list
rseq
mprotect
mprotect
mprotect
prlimit64
munmap
newfstatat
getrandom
brk
brk
write
exit_group
+++ exited with 10 +++
```

## Result:

Hence the trace function call from the syscall.sh script has been successfully executed to identify the calls made by the system during the execution of the hello.c program