Ex no: 5

Date: 12.3.24

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. Shellscript to read the contents of hellotrace file and print only system call name as output.

Program Code:

helloworld.c

```
#include<stdio.h>
void main(){
        printf(" Hello World \n");
}
```

systemcall.sh

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

Output:

```
gcc helloworld.c -o hello
strace -o hellotrace ./hello
Hello World
vi systemcall.sh
sh systemcall.sh
systemcall.sh: line 1: //: Is a directory
execve
brk
mmap2
access
open
fstat 64
mmap2
close
open
read
fstat 64
mmap2
mmap2
mmap2
close
set_thread_area
mprotect
mprotect
mprotect
munmap
fstat64
brk
brk
brk
write
exit_group
+++ exited with 13 +++
```

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RESULT: The program has been executed and output verified successfully.