

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:

```
#include<signal.h>
#include<unistd.h>
#include<stdlib.h>
#include<stdio.h>
void my_handler(int sig);
int main()
{
    struct sigaction my_action;
    my_action.sa_handler=my_handler;
    my_action.sa_flags=SA_RESTART;
    sigaction(SIGINT,&my_action,NULL);
    printf("Catching SIGINT\n");
    sleep(3);
    printf("No SIGINT within 3 seconds\n");
    my_action.sa_handler=SIG_IGN;
    my_action.sa_flags=SA_RESTART;
    sigaction(SIGINT,&my_action,NULL);
    printf("Ignoring SIGINT\n");
    sleep(3);
    printf("Sleep is over\n");
    my_action.sa_handler=SIG_DFL;
    my_action.sa_flags=SA_RESTART;
    sigaction(SIGINT,&my_action,NULL);
    sleep(3);
    printf("No SIGINT within 3 seconds\n");
```

```
}  
void my_handler(int sig)  
{  
    printf("\t I got SIGINT,number%d\n",sig);  
    exit(0);  
}
```