OS LAB

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R4 46

SYSTEM CALLS

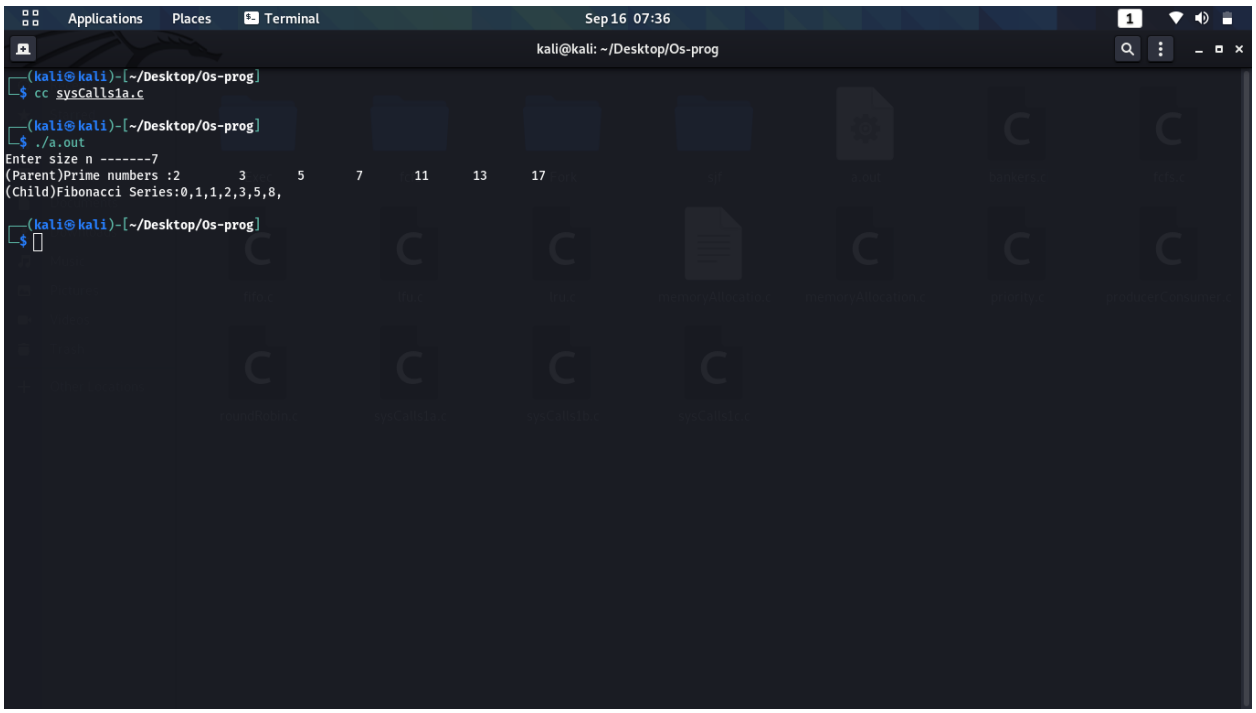
1)

Code:

```
 #include <stdio.h>

#include <unistd.h>
int main()
{
int t1=0,t2=1,n,i,j,temp,count=1,flag,nextTerm,k=2;
nextTerm=t1+t2;
printf("Enter size n -------");
scanf("%d",&n);
temp=fork();

if(temp==0)
{
printf("(Child)Fibonacci Series:%d,%d,",t1,t2);

for(i=3;i<=n;++i){
printf("%d,",nextTerm);
t1=t2;
t2=nextTerm;
nextTerm=t1+t2;
}

printf("\n");
}
else if(temp>0){
printf("(Parent)Prime numbers :");
while(count<=n){
flag=0;

for (j = 2; j <= k / 2; j++)
{
    if (k % j == 0)
    {
            flag = 1;
```

```
            break;
    }
}
if (flag == 0)
{
    printf("%d\t", k);
    count++;
}
k++;
}
printf("\n");
}
return 0;
}
```

OUTPUT



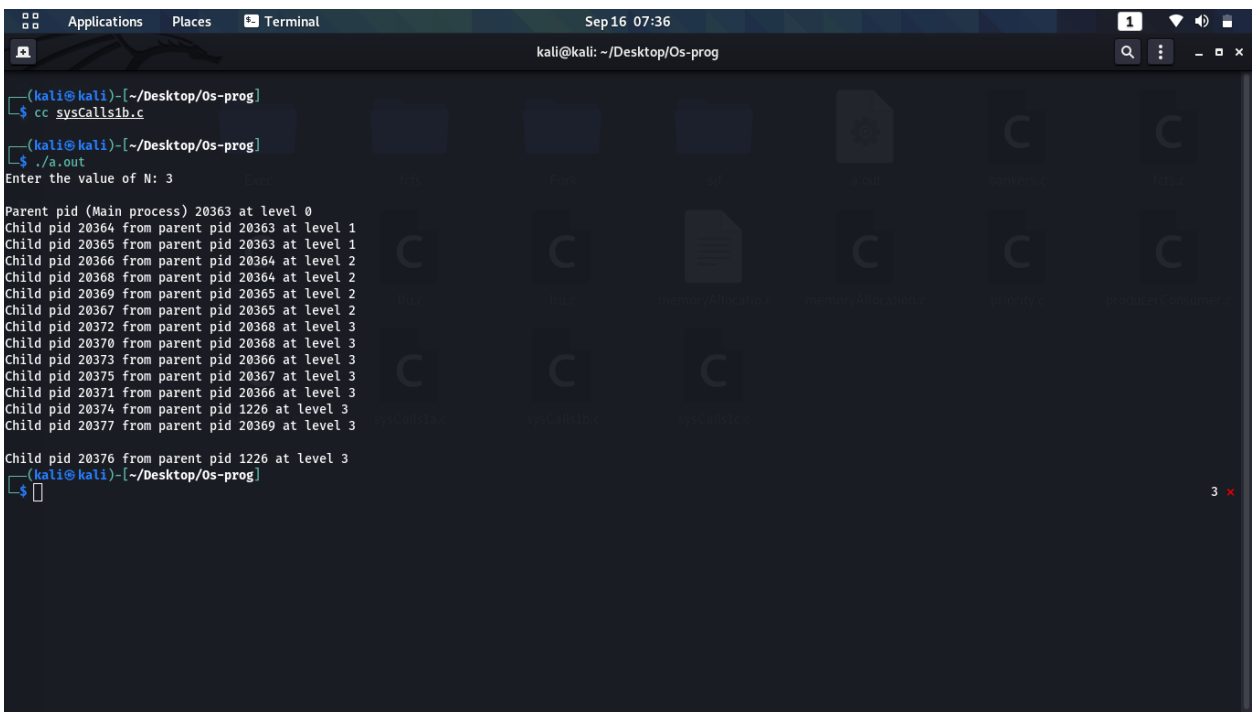
2)

<u>CODE:-</u>

```
#include <stdio.h>
#include <unistd.h>
#include <sys/wait.h>
void main()
```

```
{
int n;
printf("Enter the value of N: ");
scanf("%d", &n);
printf("\nParent pid (Main process) %d at level 0\n", getpid());
for (int i = 1; i <= n; i++)
if (fork() == 0) // CHILD 1
printf("Child pid %d from parent pid %d at level %d\n",
getpid(), getppid(), i);
else if (fork() == 0) // CHILD 2
printf("Child pid %d from parent pid %d at level %d\n",
getpid(), getppid(), i);
else
 {
wait(NULL);
i = n + 1;
 }
}
```

OUTPUT



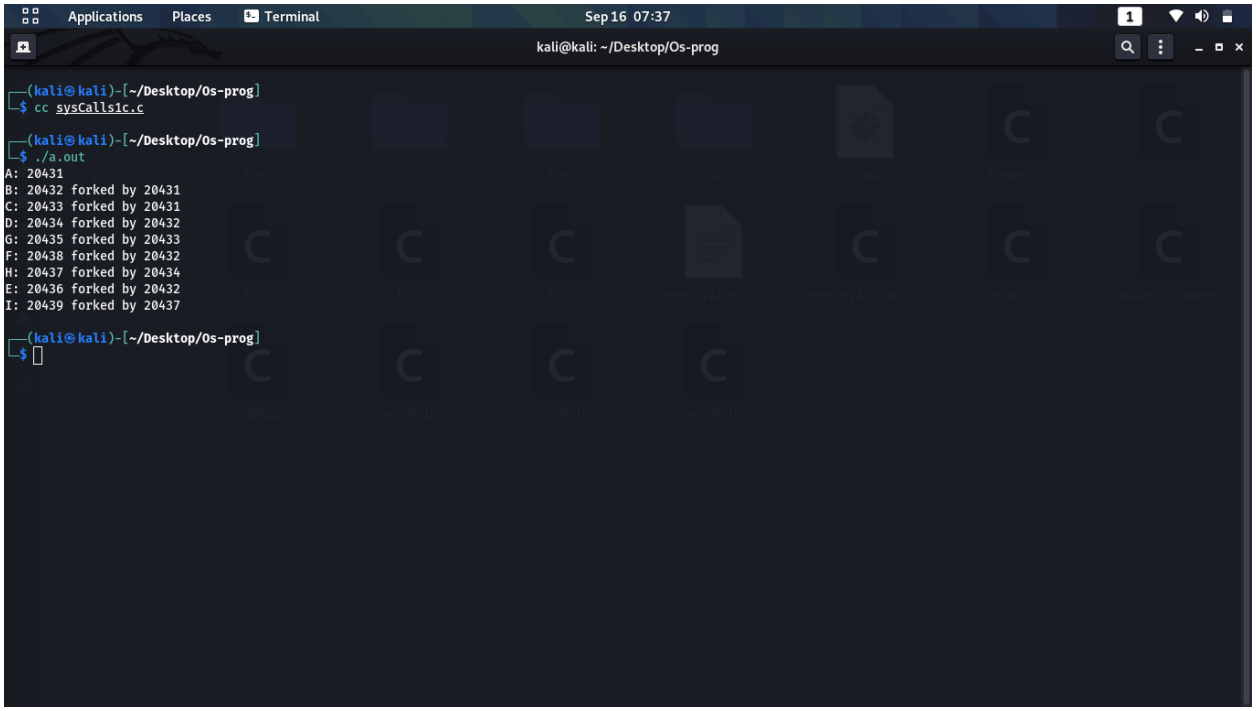
3)

Input

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

```
#include <sys/wait.h>
int main()
{
printf("A: %d\n", getpid());
if (fork() == 0)
{
printf("B: %d forked by %d\n", getpid(), getppid());
if (fork() == 0)
{
printf("D: %d forked by %d\n", getpid(), getppid());
if (fork() == 0)
{
printf("H: %d forked by %d\n", getpid(), getppid());
if (fork() == 0)
{
printf("I: %d forked by %d\n", getpid(), getppid());
}
else
wait(NULL);
}
else
wait(NULL);
}
else if (fork() == 0)
{
printf("E: %d forked by %d\n", getpid(), getppid());
}
else if (fork() == 0)
{
printf("F: %d forked by %d\n", getpid(), getppid());
}
else
wait(NULL);
}
else if (fork() == 0)
{
printf("C: %d forked by %d\n", getpid(), getppid());
if (fork() == 0)
{
printf("G: %d forked by %d\n", getpid(), getppid());
}
else
wait(NULL);
}
else
wait(NULL);
return 0;
}
```

OUTPUT


Applications
Places
Terminal
Sep 16 07:37
kali@kali: ~/Desktop/Os-prog
(kali㉿kali)-[~/Desktop/Os-prog]
$ cc sysCalls1c.c
(kali㉿kali)-[~/Desktop/Os-prog]
$ ./a.out
A: 20431
B: 20432 forked by 20431
C: 20433 forked by 20431
D: 20434 forked by 20432
G: 20435 forked by 20433
F: 20438 forked by 20432
H: 20437 forked by 20434
E: 20436 forked by 20432
I: 20439 forked by 20437
(kali㉿kali)-[~/Desktop/Os-prog]
$