

EXPERIMENT- 1.3

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Branch: CSE-AIML

Section/Group: 21AML-12A

Semester: 3rd

Date of Performance: 20 August, 2022

Subject Name: Operating System

Subject Code: 21CSH-242

1. Experiment Title/Problem Statement:

To write C Programs using the following system calls of UNIX operating system fork, exec, getpid, exit, wait, close, stat, opendir, readdir.

2.Requirements: ubuntu terminal, vm editor,

3.Work to be Done: To write a code which will contains unix commands like fork(),exec,getpid,exit,wait,close,stat,opendir,readdir

Algorithm:

1. Declare variables
2. Parent process is a process in which program is running
3. create child1 process using fork() when parent is active
4. create child2 process using fork() when child1 is active.
5. create child3 process using fork()when child2 is active

Code:

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

```
void main()
```

```
{
```

```
int pid1,pid2,pid3;

printf("parent id is %d and root id is %d\n",getpid(),getppid());

pid1=fork();

if(pid1==0)

{

    printf("process1 id is%d and its parent id is %d\n",getpid(),getppid());

    pid2=fork();

    }

    if(pid2==0)

    {

        printf("process2 id is%d and its parent id is %d\n",getpid(),getppid());

        pid3=fork();

        }

        if(pid1==0 && pid2==0 && pid3==0)

        {

            printf("process3 id is%d and its parent id is %d\n",getpid(),getppid());

            }

        }
```

Output:-

```
parent id is 2079 and root id is 2072
process2 id is 2079 and its parent id is 2072
process1 id is 2080 and its parent id is 2079
process2 id is 2082 and its parent id is 2080
process3 id is 2083 and its parent id is 2082
```

Code explanation:

The code returns the process ID of the parent of the calling process. If the calling process was created by the fork() function and the parent process still exists at the time of the getppid function call, this function returns the process ID of the parent process. Otherwise, this function returns a value of 1 which is the process id for init process. getpid() : returns the process ID of the calling process. This is often used by routines that generate unique temporary filenames.

Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			
2.			
3.			