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LAB 5

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Section: A

Semester: Third

Course: Operating System (LAB)

TASK 01

Write a program using fork () system call to create two child of the same process i.e., Parent P having child process P1 and P2.

CODE:

```
#include<stdio.h>
#include<unistd.h>
#include<sys/types.h>
int main()
{
    pid_t p1, p2;

    printf("Parent id is %d\n",getpid());
    printf("\n");
    p1= fork();
    if (p1 == 0)
    {
        printf("I am child1 with id %d\n",getpid());
        printf("My parents id is %d\n",getppid());
        printf("\n");
    }
    else
    {
        p2 = fork();
        if (p2 == 0)
        {
            printf("I am child2 with id %d\n",getpid());
            printf("My parents id is %d\n",getppid());
            printf("\n");
        }
        else
        {
            sleep(1);
        }
    }
}
```

OUTPUT:

```
fjwu@fjwu-HP-EliteDesk-800-G1-TWR:~$ nano pro.c
fjwu@fjwu-HP-EliteDesk-800-G1-TWR:~$ gcc pro.c
fjwu@fjwu-HP-EliteDesk-800-G1-TWR:~$ ./a.out
Parent id is 5874

I am child1 with id 5875
My parents id is 5874

I am child2 with id 5876
My parents id is 5874

fjwu@fjwu-HP-EliteDesk-800-G1-TWR:~$ █
```

TASK 02

Write a program using fork() system call to create a hierarchy of 3 process such that P2 is the child of P1 and P1 is the child of P.

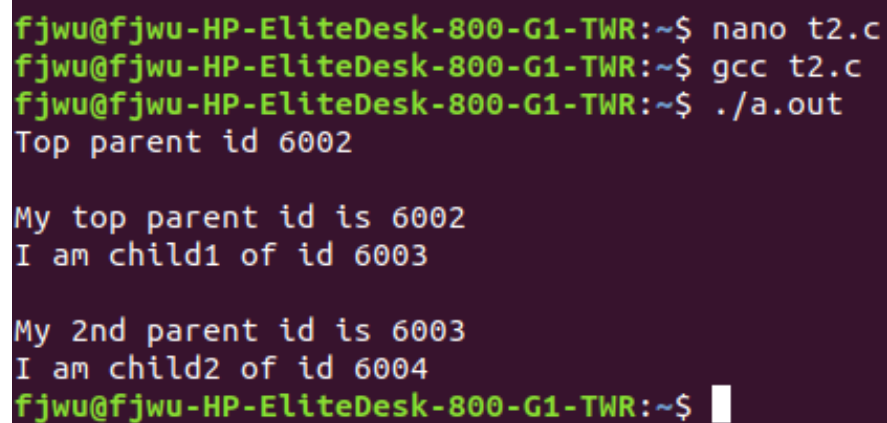
CODE:

```
#include<stdio.h>
#include<unistd.h>
#include<sys/types.h>
int main()
{
    pid_t parent, child;
    printf("Top parent id %d\n", getpid());
    printf("\n");
    parent = fork();
    if (parent == 0 )
    {
        printf("My top parent id is %d\n", getppid());
        printf("I am child1 of id %d\n", getpid());
        printf("\n");
        child = fork();
        if(child == 0)
        {
            printf("My 2nd parent id is %d\n", getppid());
            printf("I am child2 of id %d\n", getpid());

        }
    }
}
```

```
}  
else  
{  
sleep (1);  
}  
}  
}
```

OUTPUT:



```
fjwu@fjwu-HP-EliteDesk-800-G1-TWR:~$ nano t2.c  
fjwu@fjwu-HP-EliteDesk-800-G1-TWR:~$ gcc t2.c  
fjwu@fjwu-HP-EliteDesk-800-G1-TWR:~$ ./a.out  
Top parent id 6002  
  
My top parent id is 6002  
I am child1 of id 6003  
  
My 2nd parent id is 6003  
I am child2 of id 6004  
fjwu@fjwu-HP-EliteDesk-800-G1-TWR:~$
```