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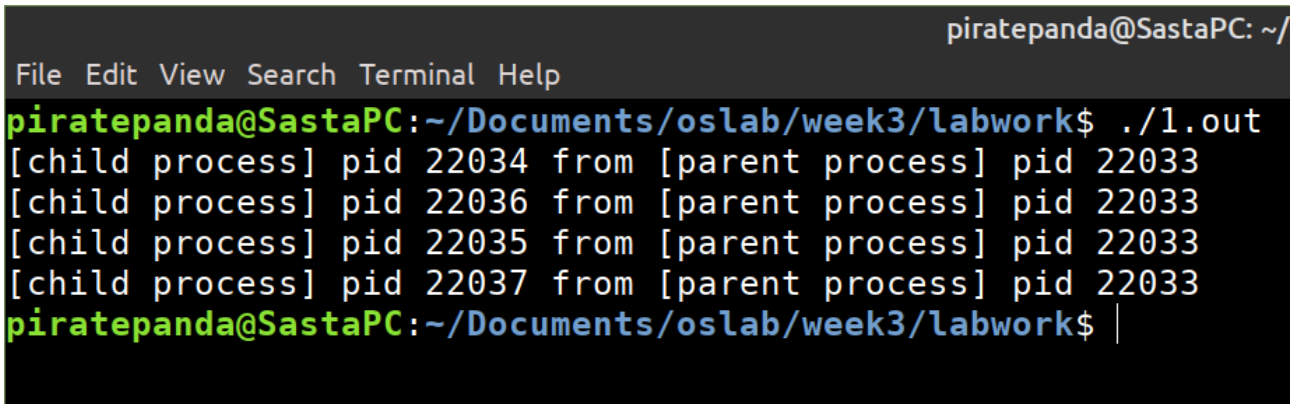
Q1.

```
#include<stdio.h>
#include<stdlib.h>
#include<unistd.h>
#include<sys/types.h>
#include<sys/wait.h>
int main()
{
for(int i=0;i<4;i++)
{
if(fork() == 0)
{
printf("[child process] pid %d from [parent process] pid %d\n",getpid(),getppid());
exit(0);
}
}
for(int i=0;i<4;i++)
wait(NULL);
}
```

Output :



Q2 :

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <unistd.h>
int main()
{
int num1;
int num;
char snum1[20];
char snum[20];
int status, pid, pip[2];
status = pipe(pip);
if (status == -1)
{
```

```
perror("Unable to create pipe");
exit(1);
}
pid = fork();
if (pid == -1)
{
perror("Unable to create process");
exit(2);
}
else if (pid == 0)
{
close(pip[0]);
num = (rand() % (100 - 0 + 1)) + 0;
sprintf(snum, "%d", num);
printf("Sending message\n%d\n", num);
write(pip[1], snum, strlen(snum) + 1);
close(pip[1]);
exit(0);
}
else
{
close(pip[1]);
read(pip[0], snum1, strlen(snum) + 1);
sscanf(snum1, "%d", &num1);
printf("Message recieved.\n%d\n", num1);
close(pip[0]);
pid = fork();
if (pid == -1)
{
perror("Unable to create process");
exit(2);
}
else if (pid == 0)
{
int i, t1 = 0, t2 = 1, nextTerm;
for (i = 1; i <= num1; ++i)
{
nextTerm = t1 + t2;
t1 = t2;
t2 = nextTerm;
}
printf("The x by 2 term is %d\n", nextTerm/2);
close(pip[0]);
sprintf(snum,"%d",nextTerm/2);
write(pip[1], snum, strlen(snum) + 1);
close(pip[1]);
exit(0);
}
else{
close(pip[1]);
read(pip[0], snum1, strlen(snum) + 1);
sscanf(snum1, "%d", &num1);
```

```
close(pip[0]);
pid = fork();
if (pid == -1)
{
perror("Unable to create process");
exit(2);
}
else if (pid == 0){
if(num1%2==0)
printf("Even\n");
else
printf("Odd\n");
exit(0);
}
exit(0);
}
exit(0);
}
}
```

Output :

```
piratepanda@SastaPC:~/Documents/oslab/week3/labwork$ gcc 2.c -o 2.out
piratepanda@SastaPC:~/Documents/oslab/week3/labwork$ ./2.out
Sending message
32
Message recieved.
3
The x by 2 term is 1
Odd
piratepanda@SastaPC:~/Documents/oslab/week3/labwork$
```