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OS Lab 2 Code:

Title: Process Management (Process Control)

FORK:

```
#include <stdio.h>
#include <sys/types.h>
#include <unistd.h>
#include <stdlib.h>
/*pid_t : is a long integer type data type... prototype in types.h */
pid t num pid;
int main()
{
num_pid=fork(); /* return values of fork */
if(num_pid==0)
{
printf("This is child process id %d\n",getpid());
}
if(num pid>0)
{
```

```
printf("This is parent process id %d\n",getpid());
}
exit (0);
```

}

OUTPUT:

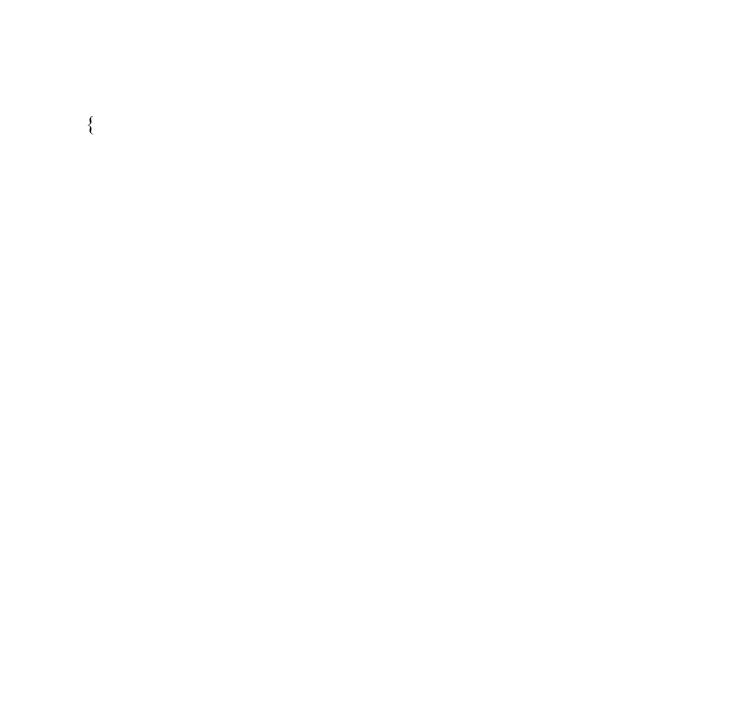
Output

/tmp/Gk5e4HOmX4.o

This is parent process id 984 This is child process id 985

ORPHAN PROCESS:

```
#include <stdio.h>
#include <unistd.h>
#include <sys/types.h>
int main()
{
  int pid =fork();
  if(pid>0)
{
    printf("parent process id %d\n",getpid());
    printf("child process id %d\n",pid); }
else if(pid==0)
```



```
sleep(10);
printf("child process id %d\n",getpid());
printf("parent process id %d\n",getppid());
}
return 0;
}
```

OUTPUT:

Output

parent process id 5868 child process id 5869

ZOMBIE PROCESS:

```
#include <stdio.h>
#include <unistd.h>
#include <stdlib.h>
int main(void)
{
   pid_t pid;
   if((pid=fork())< 0)
   printf("\n\tfork error\n");
   else
   if(pid==0)</pre>
```

```
\label{lem:condition} \label{lem:condition} \mbox{printf("Child id is $\%d\n',getpid());}
```

```
}
else
{
sleep(10);
system("ps -axj | more");
}
exit(0);
}
```

OUTPUT:

```
Child id is 839
PPID
        PID
             PGID
                                   TPGID STAT
                                                 UID
                                                        TIME COMMAND
                       1 pts/0
                                       1 Ss+
                                                        0:00 /script/cinit
                      65 pts/2
                                       65 Ss+
                                                        0:00 /bin/bash
               209
                                               14049
                                                        0:00 [a.out] <defunct>
                                       -1 Zs
                                               14049
                                                        0:00 [a.out] <defunct>
                                       -1 Zs
                                               14049
                                                        0:00 [a.out] <defunct>
        685
              685
                     685 pts/1
                                               14049
                                      834 Ss
                                                        0:00 /bin/bash
        764
              764
                     764 ?
                                      -1 Zs
                                               14049
                                                        0:00 [a.out] <defunct>
              834
                                                        0:00 /script/tinit ./a.out
        834
                     685 pts/1
                                      834 S1+
                                               14049
                                                        0:00 ./a.out
0:00 [a.out] <defunct>
                     835 pts/3
                                      835 Ss+
        839
                                      835 Z+
                                               14049
                     835 pts/3
        840
              835
                                      835 S+
                                               14049
                                                        0:00 sh -c ps -axj | more
                                     835 R+
835 R+
                                                        0:00 ps -axj
  840
        841
                                               14049
  840
        842
                     835 pts/3
                                               14049
                                                        0:00 more
```