BAHIR DAR UNIVERSITY

INSTITUTE OF TECHNOLOGY

DEPARTMENT OF SOFTWARE ENGINEERING

Course code – OSSP

Operating system and system programming individual assignment

Implementing system call

- Implementing system calls directly requires kernel-level programming.

The system call getppid() is indeed available in the Knoppix operating system, as Knoppix is a Linux distribution.

In Linux (and therefore Knoppix), the getppid() system call is used by a process to retrieve the process ID (PID) of its parent process.

How it works:

When a new process is created (usually via the fork() system call followed by exec()), the child process inherits various attributes from its parent, including the parent's PID. The getppid() system call allows a process to find out the PID of the process that created it.

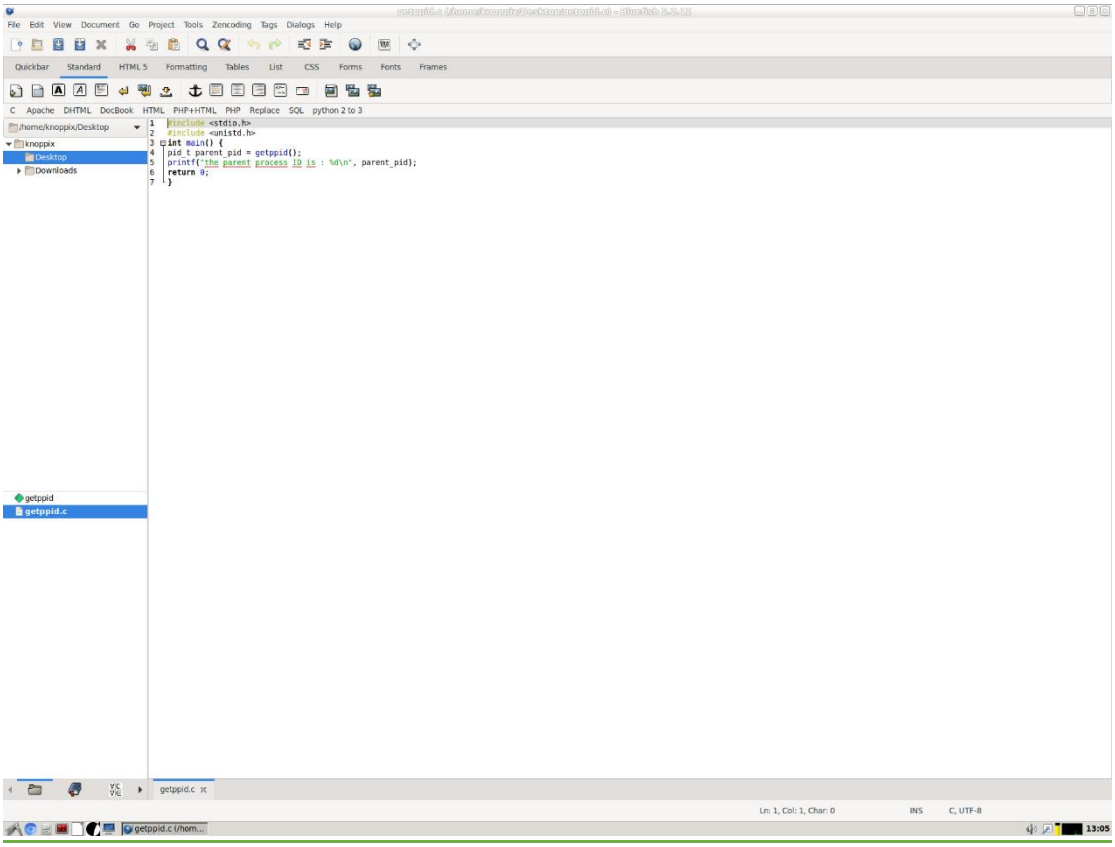
In C/C++:

To use getppid() in a C or C++ program on Knoppix (or any Linux system), you would include the header file and then call the function:

C

```
#include <stdio.h>

#include <unistd.h>

int main() {

pid_t parent_pid = getppid();

printf("The parent process ID is: %d\n", parent_pid);

return 0;

}
```

When you compile and run this program, it will print the PID of the process that started it.


File Edit View Document Go Project Tools Zencoding Tags Dialogs Help
Quickbar Standard HTML 5 Formatting Tables List CSS Forms Fonts Frames
C Apache DHTML DocBook HTML PHP+HTML PHP Replace SQL python 2 to 3
/home/knoppix/Desktop
knoppix
Desktop
Downloads
getppid
getppid.c
1 #include <stdio.h>
2 #include <unistd.h>
3 int main() {
4 pid_t parent_pid = getppid();
5 printf("the parent process ID is : %d\n", parent_pid);
6 return 0;
7 }
getppid.c
Ln: 1, Col: 1, Char: 0
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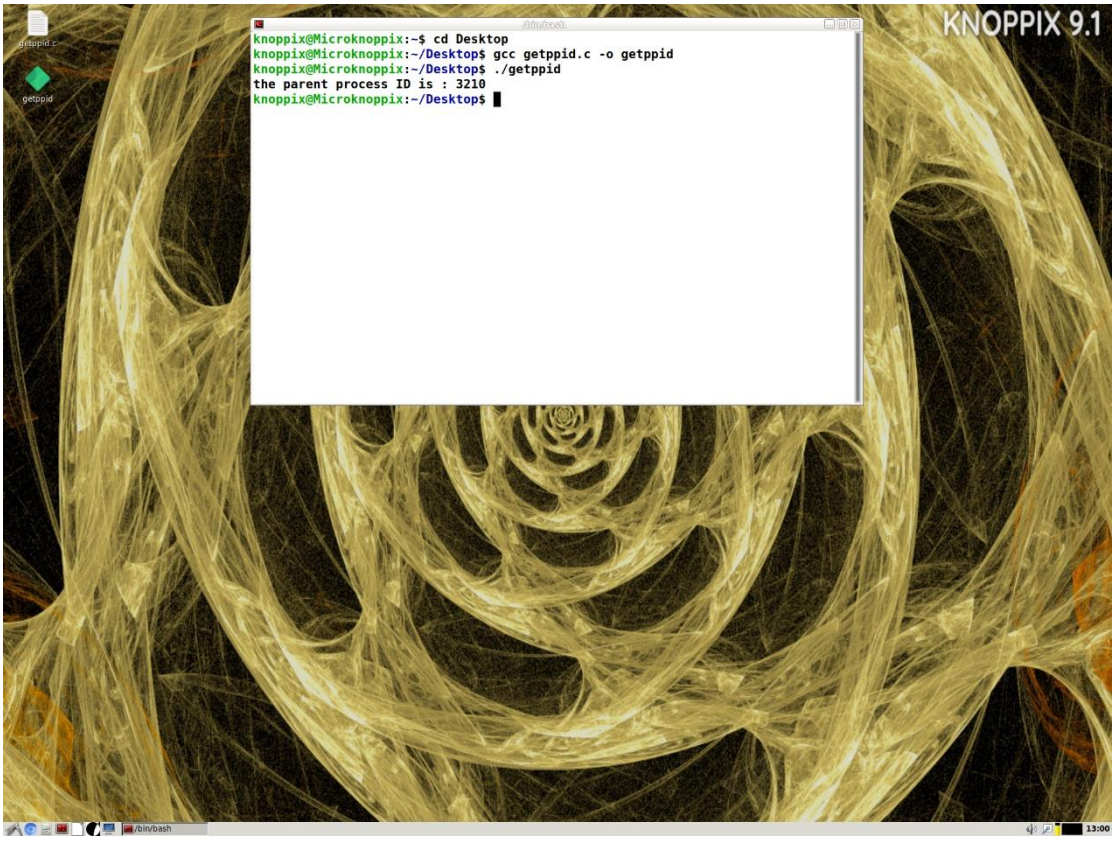
C, UTF-8
13:05


getppid.c
getppid
knoppix@Microknoppix:~$ cd Desktop
knoppix@Microknoppix:~/Desktop$ gcc getppid.c -o getppid
knoppix@Microknoppix:~/Desktop$ ./getppid
the parent process ID is : 3210
knoppix@Microknoppix:~/Desktop$
KNOPPIX 9.1
/bin/bash
13:00