

GNU nano 7.2 process_creation.c *

```

#include <stdio.h>
#include <unistd.h>

int main() {
    pid_t pid = fork();
    if (pid == 0) {
        printf("This is the child process. PID: %d\n", getpid());
    } else if (pid > 0) {
        printf("This is the parent process. PID: %d\n", getpid());
    } else {
        printf("Fork failed!\n");
    }
    return 0;
}

```

ctrl+alt+f

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file1.c

```

void hello() {
    printf("Hello from file1!\n");
}

```

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file2.c

```

GNU nano 7.2
void hello();

int main() {
    hello();
    return 0;
}

```

ctrl+alt+f

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simple_program.c

```

GNU nano 7.2
#include <stdio.h>

int main() {
    printf("This is a simple program.\n");
    return 0;
}

```

ctrl+alt+f

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Makefile *

```

# Define the compiler
CC = gcc

# Set compilation flags
CFLAGS = -Wall -g

# Default target: compile all
all: process_creation output_program simple_program

# Compile process_creation.c
process_creation: process_creation.c
    $(CC) $(CFLAGS) process_creation.c -o process_creation

# Compile file1.c and file2.c together
output_program: file1.c file2.c
    $(CC) $(CFLAGS) file1.c file2.c -o output_program

# Compile simple_program.c
simple_program: simple_program.c
    $(CC) $(CFLAGS) simple_program.c -o simple_program

# Remove compiled binaries
clean:
    rm -f process_creation output_program simple_program

# Run all programs

```

^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location M-U Undo M-A Set Mark
^X Exit ^R Read File ^V Replace ^U Paste ^J Justify ^Y Go To Line M-E Redo M-G Copy

```
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GNU nano 7.2                                     Makefile *
all: process_creation output_program simple_program

# Compile process_creation.c
process_creation: process_creation.c
    $(CC) $(CFLAGS) process_creation.c -o process_creation

# Compile file1.c and file2.c together
output_program: file1.c file2.c
    $(CC) $(CFLAGS) file1.c file2.c -o output_program

# Compile simple_program.c
simple_program: simple_program.c
    $(CC) $(CFLAGS) simple_program.c -o simple_program

# Remove compiled binaries
clean:
    rm -f process_creation output_program simple_program

# Run all programs
run: all
    ./process_creation
    ./output_program
    ./simple_program

.PHONY: all clean run
|
```

```
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GNU nano 7.2                                     README.md
# CSE233 Lab-5: Process Management and Basic Forks

## Overview
This project demonstrates basic process management in C using fork, multi-file compilation, and the usage of Makefile files.

## Contents
- 'process_creation.c' - Demonstrates fork and process creation
- 'file1.c'/file2.c' - Multi-file compilation and linking demo
- 'simple_program.c' - Loader example
- 'Makefile' - Automates build and run commands
- 'LICENSE' - Project license (MIT)
- '.txt' file - Answers and explanations
- Screenshots - Proof of code compilation and execution

## How to Build
Make sure 'gcc' and 'make' are installed.

## How to Run
make
make all

## How to Run
make run

## How to Run
make run

## How to Clean Up
make clean

## License
Distributed under the MIT License. See LICENSE for details.

## Author
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## Course
Operating Systems - CSE233, Alamein University
|
```

```
noreen8@DESKTOP-1UV6SC4:~$ nano process_creation.c
noreen8@DESKTOP-1UV6SC4:~$ sudo apt update
sudo apt install gcc
[sudo] password for noreen8:

noreen8@DESKTOP-1UV6SC4:~$ gcc process_creation.c -o process_creation
noreen8@DESKTOP-1UV6SC4:~$ ./process_creation
This is the parent process. PID: 1171
This is the child process. PID: 1172

noreen8@DESKTOP-1UV6SC4:~/ass2$ nano file1.c
noreen8@DESKTOP-1UV6SC4:~/ass2$ nano file2.c
noreen8@DESKTOP-1UV6SC4:~/ass2$ gcc file1.c file2.c -o output_program.c
noreen8@DESKTOP-1UV6SC4:~/ass2$ ./output_program
-bash: ./output_program: No such file or directory
noreen8@DESKTOP-1UV6SC4:~/ass2$ gcc file1.c file2.c -o output_program
noreen8@DESKTOP-1UV6SC4:~/ass2$ ./output_program
Hello from file1!
noreen8@DESKTOP-1UV6SC4:~/ass2$ |

noreen8@DESKTOP-1UV6SC4:~$ nano simple_program.c
noreen8@DESKTOP-1UV6SC4:~$ gcc simple_program.c -o simple_program
noreen8@DESKTOP-1UV6SC4:~$ ./simple_program
This is a simple program.

noreen8@DESKTOP-1UV6SC4:~$ nano Makefile
noreen8@DESKTOP-1UV6SC4:~$ make clean
rm -f process_creation output_program simple_program
noreen8@DESKTOP-1UV6SC4:~$ make all
gcc -Wall -g process_creation.c -o process_creation
gcc -Wall -g file1.c file2.c -o output_program
gcc -Wall -g simple_program.c -o simple_program
noreen8@DESKTOP-1UV6SC4:~$ make run
./process_creation
This is the parent process. PID: 2156
This is the child process. PID: 2157
./output_program
Output of file1!
./simple_program
This is a simple program.
noreen8@DESKTOP-1UV6SC4:~$ |
```