

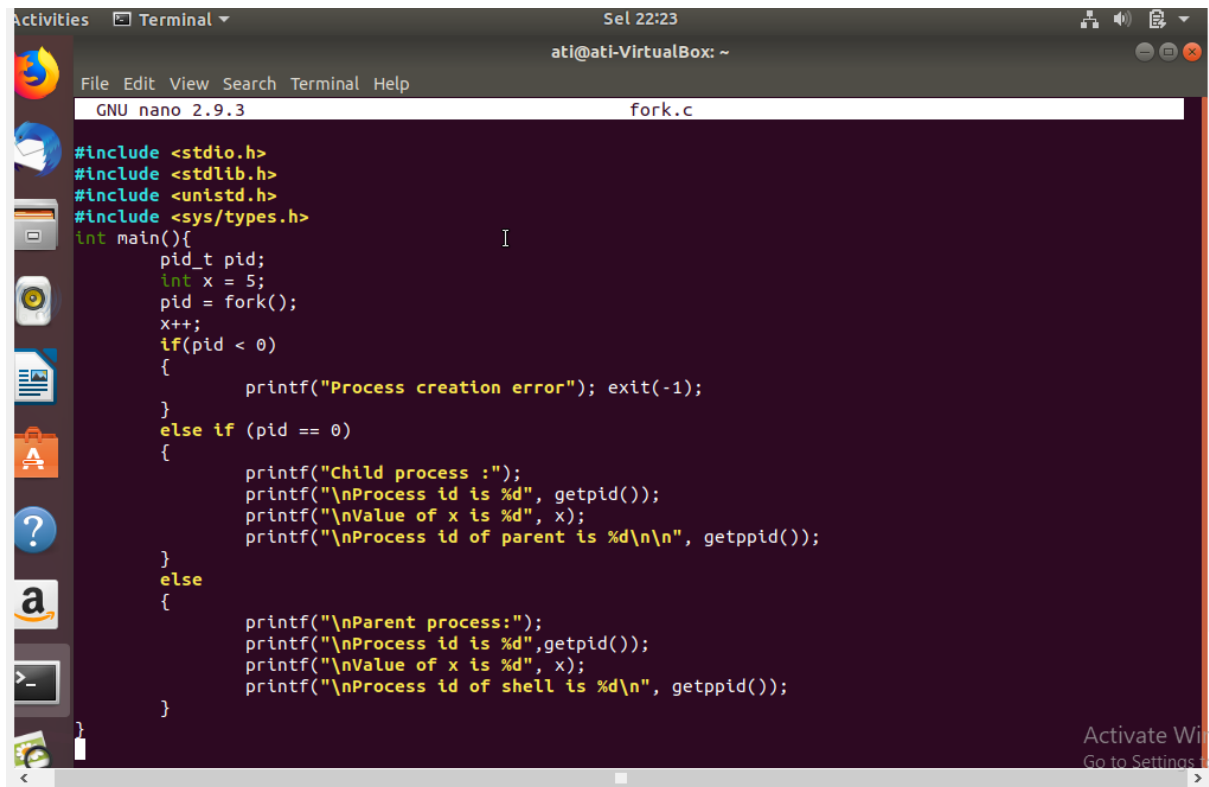
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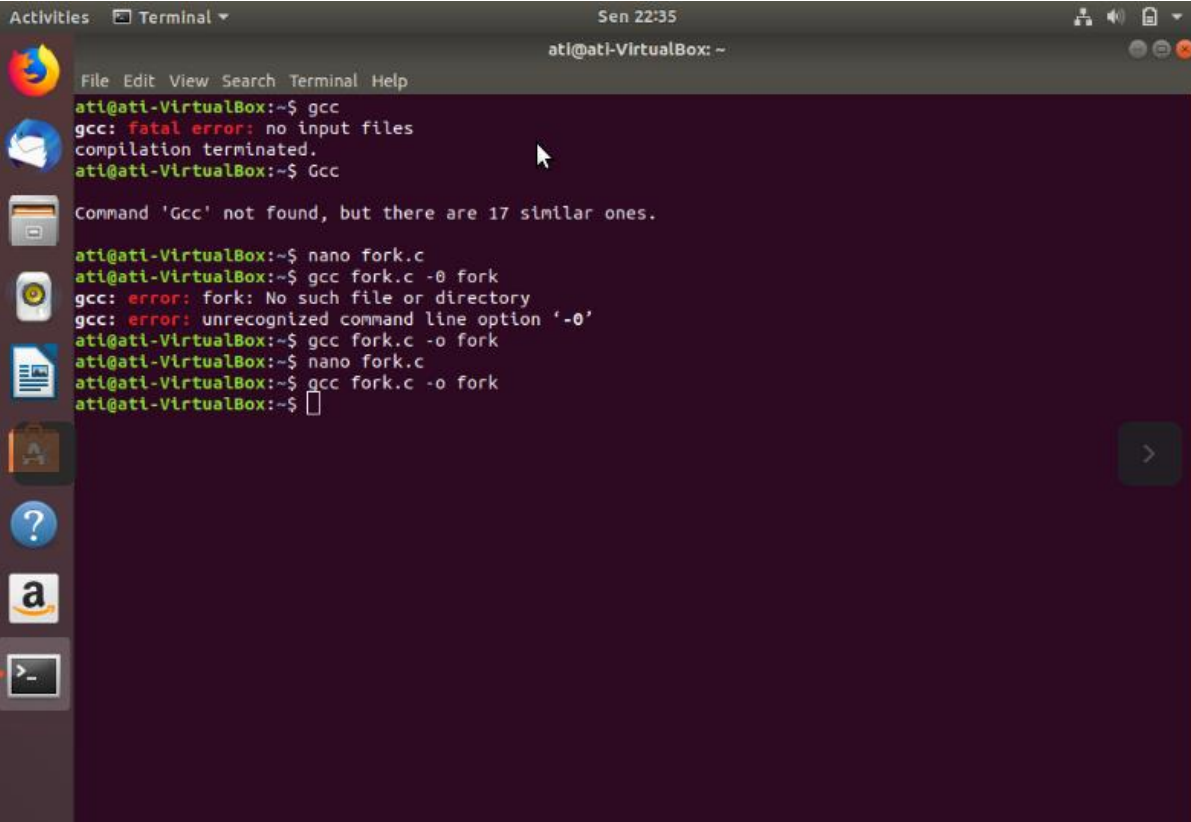
1.fork.c

Kode Program



```
GNU nano 2.9.3 fork.c
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
#include <sys/types.h>
int main(){
    pid_t pid;
    int x = 5;
    pid = fork();
    x++;
    if(pid < 0)
    {
        printf("Process creation error"); exit(-1);
    }
    else if (pid == 0)
    {
        printf("Child process :");
        printf("\nProcess id is %d", getpid());
        printf("\nValue of x is %d", x);
        printf("\nProcess id of parent is %d\n", getppid());
    }
    else
    {
        printf("\nParent process:");
        printf("\nProcess id is %d",getpid());
        printf("\nValue of x is %d", x);
        printf("\nProcess id of shell is %d\n", getppid());
    }
}
```

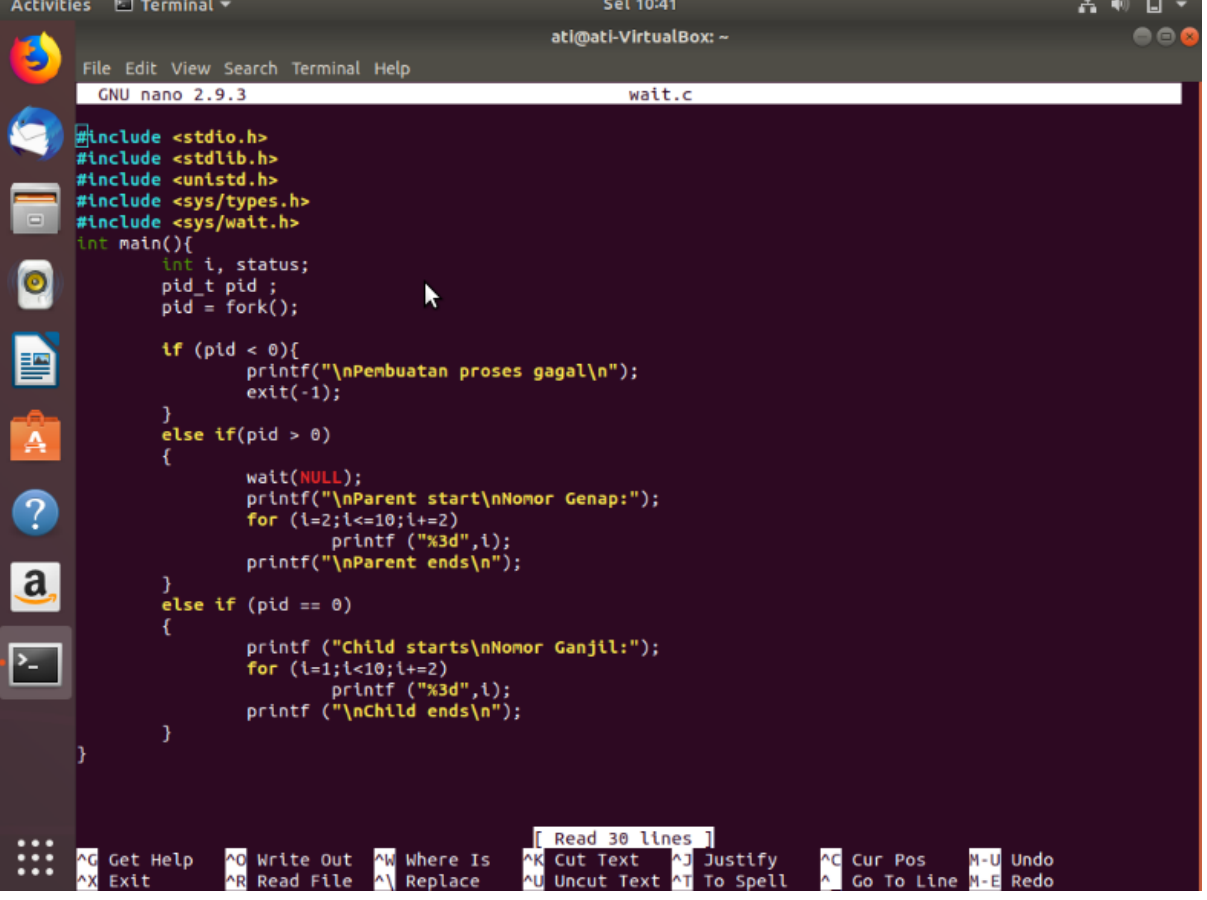
Mengecek kode program fork.c ada yang salah tidak menggunakan gcc fork.c -o fork. Jika benar maka akan muncul seperti gambar dibawah ini



```
Activities Terminal Sen 22:35 ati@ati-VirtualBox: -
File Edit View Search Terminal Help
ati@ati-VirtualBox:~$ gcc
gcc: fatal error: no input files
compilation terminated.
ati@ati-VirtualBox:~$ Gcc
Command 'Gcc' not found, but there are 17 similar ones.
ati@ati-VirtualBox:~$ nano fork.c
ati@ati-VirtualBox:~$ gcc fork.c -0 fork
gcc: error: fork: No such file or directory
gcc: error: unrecognized command line option '-0'
ati@ati-VirtualBox:~$ gcc fork.c -o fork
ati@ati-VirtualBox:~$ nano fork.c
ati@ati-VirtualBox:~$ gcc fork.c -o fork
ati@ati-VirtualBox:~$
```

## 2. wait.c

### Kode Program



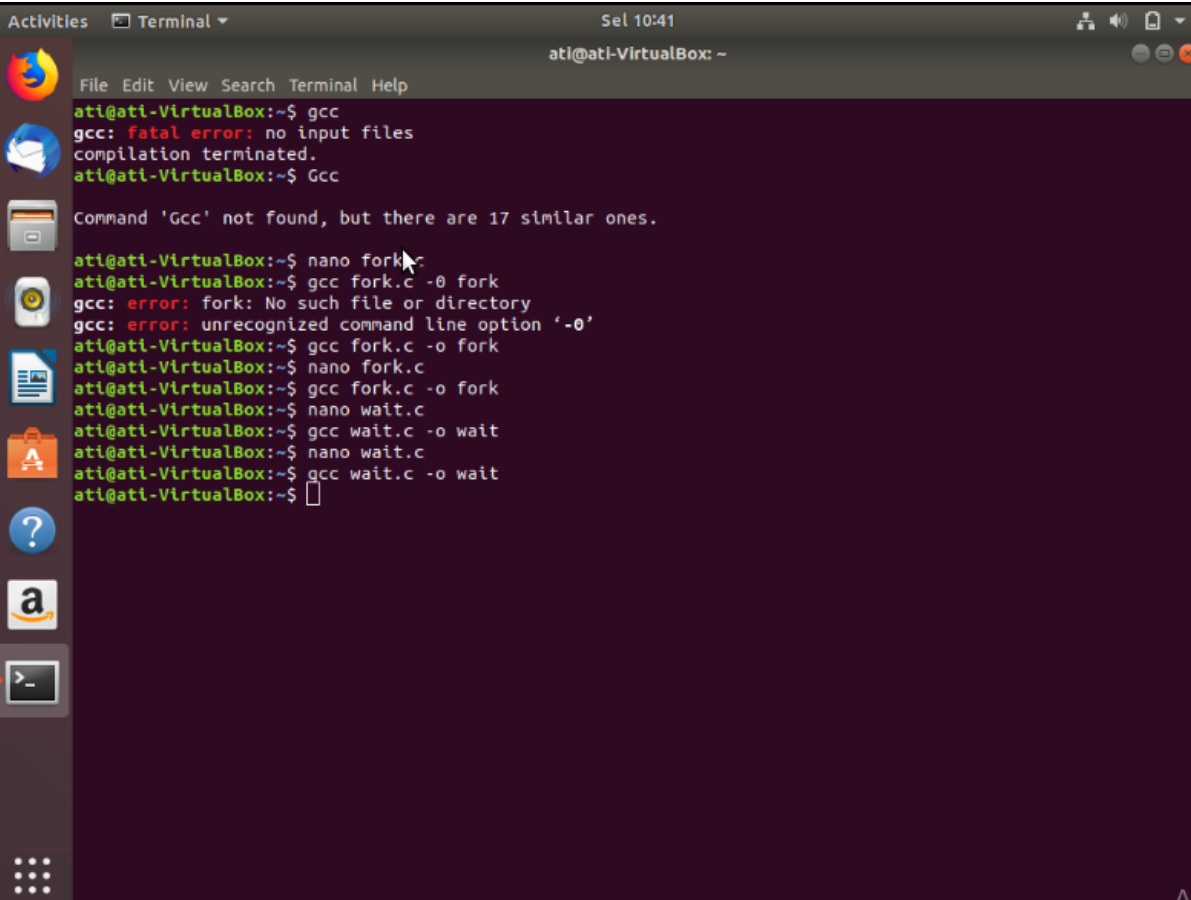
```
GNU nano 2.9.3 wait.c
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
#include <sys/types.h>
#include <sys/wait.h>
int main(){
    int i, status;
    pid_t pid ;
    pid = fork();

    if (pid < 0){
        printf("\nPembuatan proses gagal\n");
        exit(-1);
    }
    else if(pid > 0)
    {
        wait(NULL);
        printf("\nParent start\nNomor Genap:");
        for (i=2;i<=10;i+=2)
            printf ("%3d",i);
        printf("\nParent ends\n");
    }
    else if (pid == 0)
    {
        printf ("Child starts\nNomor Ganjil:");
        for (i=1;i<=10;i+=2)
            printf ("%3d",i);
        printf ("\nChild ends\n");
    }
}
```

[ Read 30 lines ]

^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^G Cur Pos ^U Undo  
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Spell ^\_ Go To Line ^E Redo

Cara Mengecek program wait dengan gcc wait.c -o wait. jika benar maka akan muncul seperti gambar di bawah



The screenshot shows a terminal window titled 'ati@ati-VirtualBox: ~' with a menu bar (File, Edit, View, Search, Terminal, Help) and a status bar (Sel 10:41). The terminal displays the following commands and output:

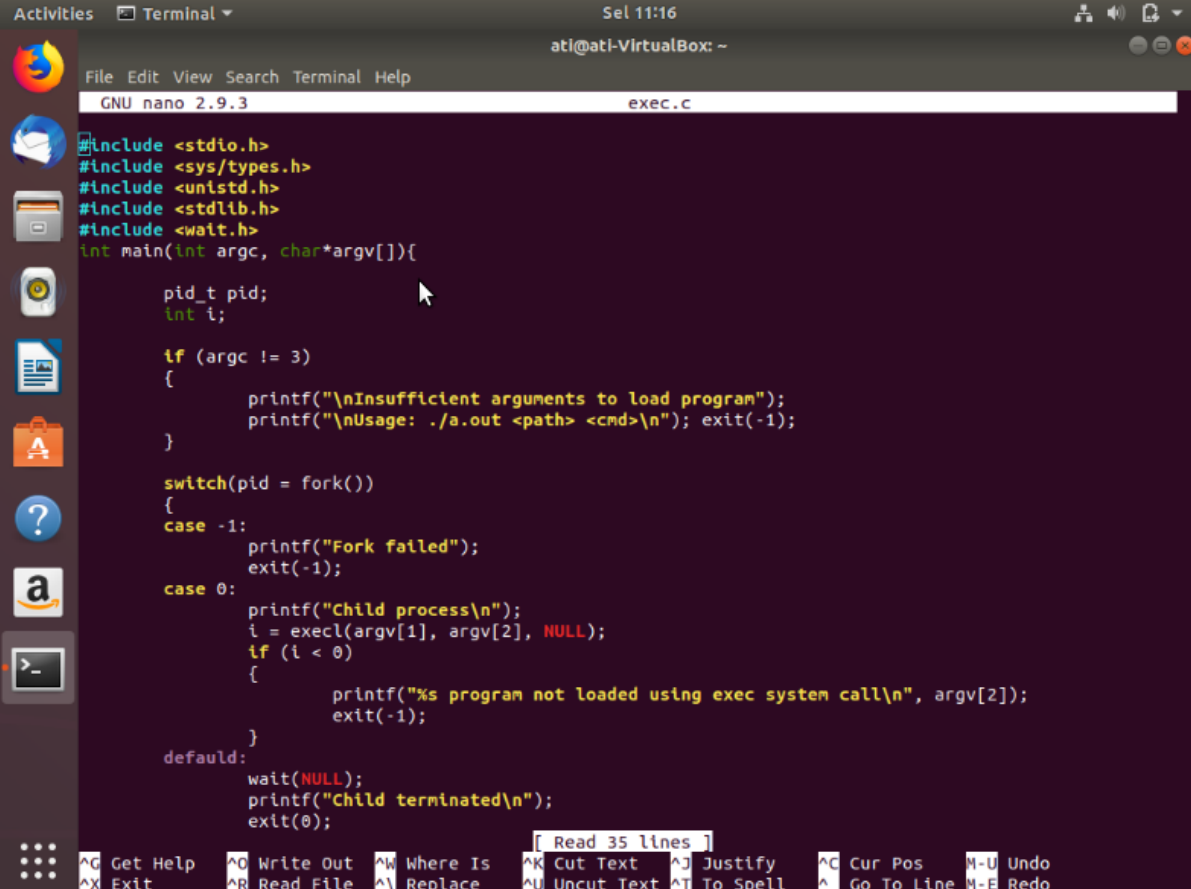
```
ati@ati-VirtualBox:~$ gcc
gcc: fatal error: no input files
compilation terminated.
ati@ati-VirtualBox:~$ Gcc
Command 'Gcc' not found, but there are 17 similar ones.

ati@ati-VirtualBox:~$ nano fork.c
ati@ati-VirtualBox:~$ gcc fork.c -o fork
gcc: error: fork: No such file or directory
gcc: error: unrecognized command line option '-o'
ati@ati-VirtualBox:~$ gcc fork.c -o fork
ati@ati-VirtualBox:~$ nano fork.c
ati@ati-VirtualBox:~$ gcc fork.c -o fork
ati@ati-VirtualBox:~$ nano wait.c
ati@ati-VirtualBox:~$ gcc wait.c -o wait
ati@ati-VirtualBox:~$ nano wait.c
ati@ati-VirtualBox:~$ gcc wait.c -o wait
ati@ati-VirtualBox:~$
```

The terminal window has a sidebar on the left with various application icons (Firefox, Mail, Files, etc.) and a top bar with system icons (network, volume, battery).

### 3.exec.c

#### Kode Program



```
GNU nano 2.9.3 exec.c
#include <stdio.h>
#include <sys/types.h>
#include <unistd.h>
#include <stdlib.h>
#include <wait.h>
int main(int argc, char*argv[]){
    pid_t pid;
    int i;

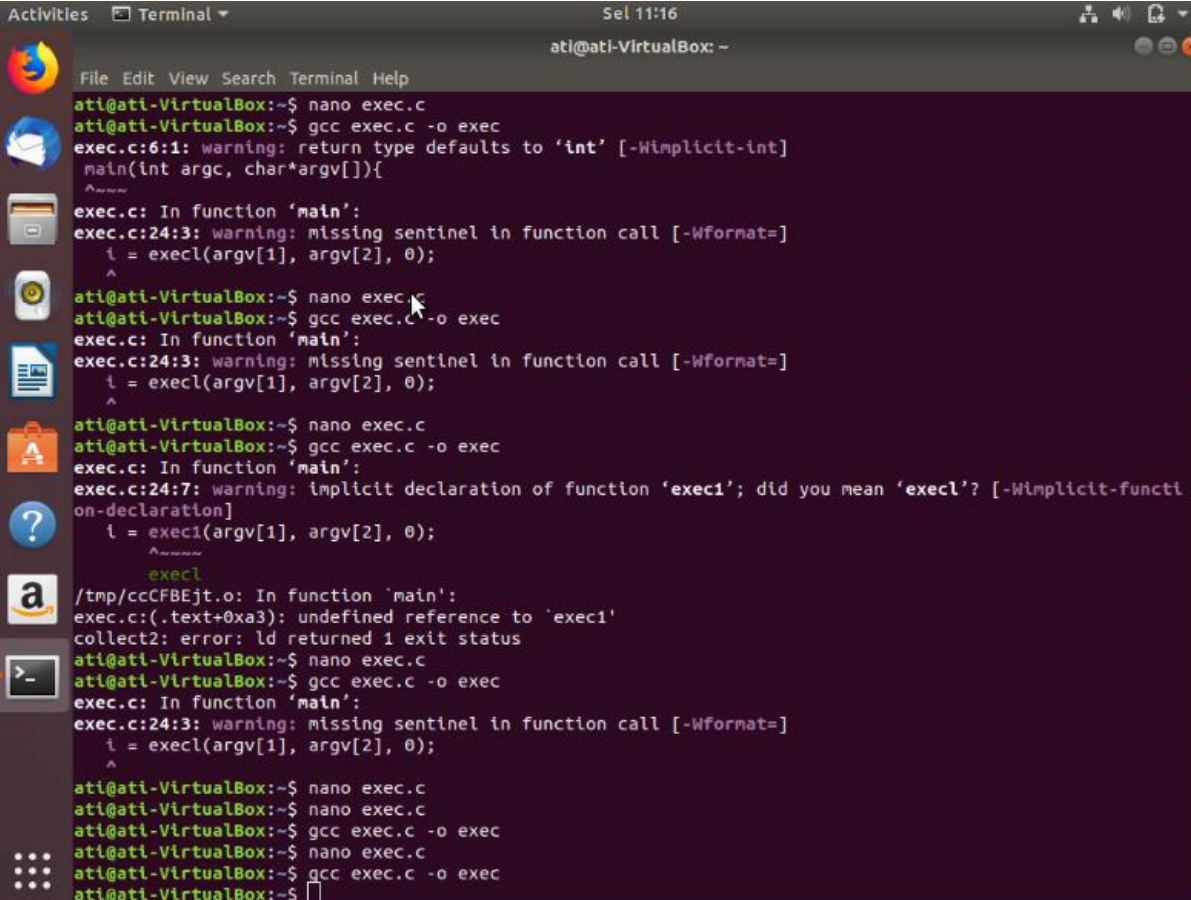
    if (argc != 3)
    {
        printf("\nInsufficient arguments to load program");
        printf("\nUsage: ./a.out <path> <cmd>\n"); exit(-1);
    }

    switch(pid = fork())
    {
        case -1:
            printf("Fork failed");
            exit(-1);
        case 0:
            printf("Child process\n");
            i = execl(argv[1], argv[2], NULL);
            if (i < 0)
            {
                printf("%s program not loaded using exec system call\n", argv[2]);
                exit(-1);
            }
        default:
            wait(NULL);
            printf("Child terminated\n");
            exit(0);
    }
}
```

Read 35 lines

Get Help Write Out Where Is Cut Text Justify Cur Pos Undo  
Exit Read File Replace Uncut Text To Spell Go To Line Redo

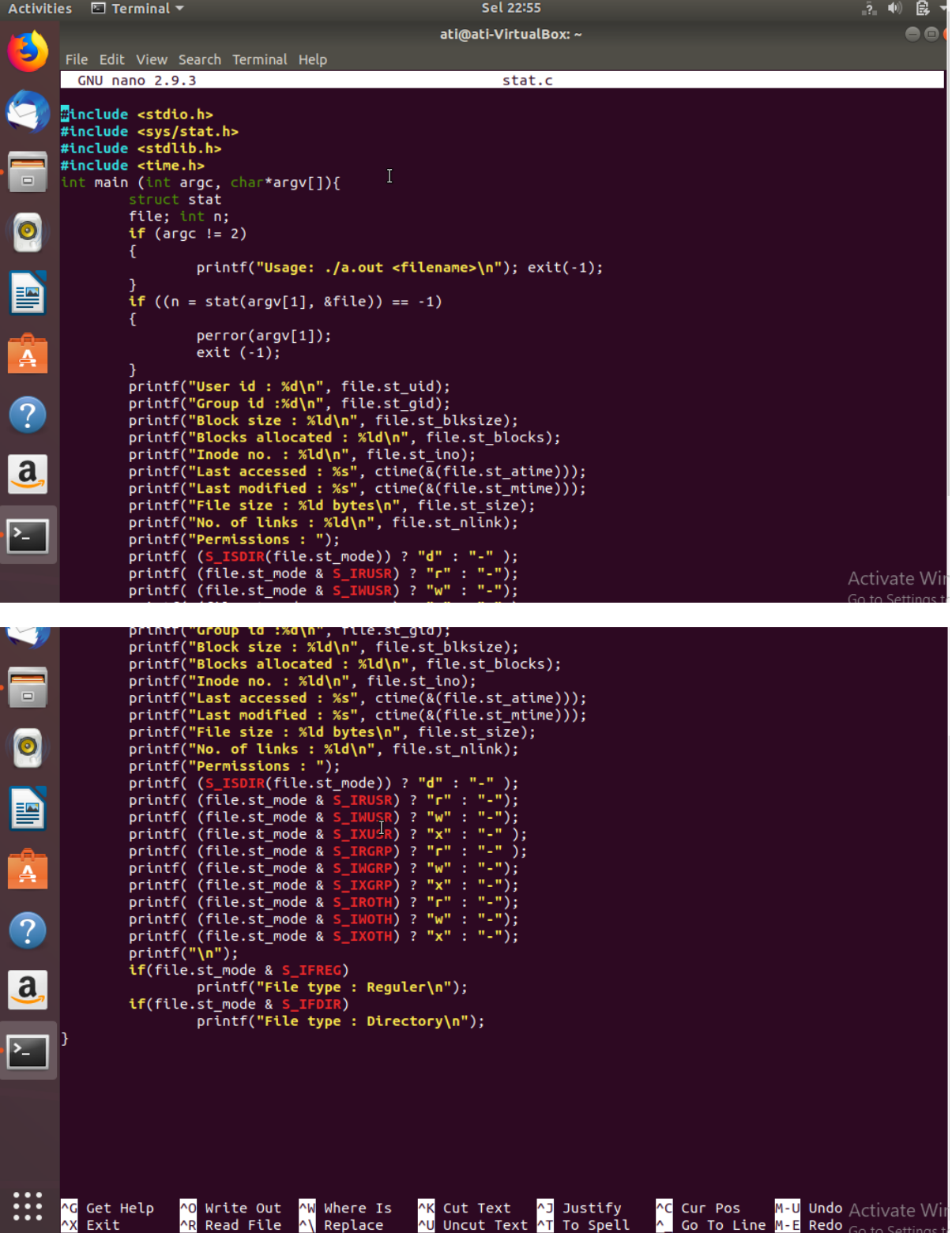
Mengecek kode program exec.c ada yang salah tidak menggunakan gcc exec.c -o exec. Jika benar maka akan muncul tampilan dibawah ini



```
Activities Terminal Sel 11:16 ati@ati-VirtualBox: ~
File Edit View Search Terminal Help
ati@ati-VirtualBox:~$ nano exec.c
ati@ati-VirtualBox:~$ gcc exec.c -o exec
exec.c:6:1: warning: return type defaults to 'int' [-Wimplicit-int]
main(int argc, char*argv[]){
^
exec.c: In function 'main':
exec.c:24:3: warning: missing sentinel in function call [-Wformat=]
    i = execl(argv[1], argv[2], 0);
    ^
ati@ati-VirtualBox:~$ nano exec.c
ati@ati-VirtualBox:~$ gcc exec.c -o exec
exec.c: In function 'main':
exec.c:24:3: warning: missing sentinel in function call [-Wformat=]
    i = execl(argv[1], argv[2], 0);
    ^
ati@ati-VirtualBox:~$ nano exec.c
ati@ati-VirtualBox:~$ gcc exec.c -o exec
exec.c: In function 'main':
exec.c:24:7: warning: implicit declaration of function 'exec1'; did you mean 'execl'? [-Wimplicit-function-declaration]
    i = exec1(argv[1], argv[2], 0);
        ^
        execl
/tmp/ccCFBEjt.o: In function 'main':
exec.c:(.text+0xa3): undefined reference to 'exec1'
collect2: error: ld returned 1 exit status
ati@ati-VirtualBox:~$ nano exec.c
ati@ati-VirtualBox:~$ gcc exec.c -o exec
exec.c: In function 'main':
exec.c:24:3: warning: missing sentinel in function call [-Wformat=]
    i = execl(argv[1], argv[2], 0);
    ^
ati@ati-VirtualBox:~$ nano exec.c
ati@ati-VirtualBox:~$ nano exec.c
ati@ati-VirtualBox:~$ gcc exec.c -o exec
ati@ati-VirtualBox:~$ nano exec.c
ati@ati-VirtualBox:~$ gcc exec.c -o exec
ati@ati-VirtualBox:~$
```

#### 4. stat.c

#### Code Program

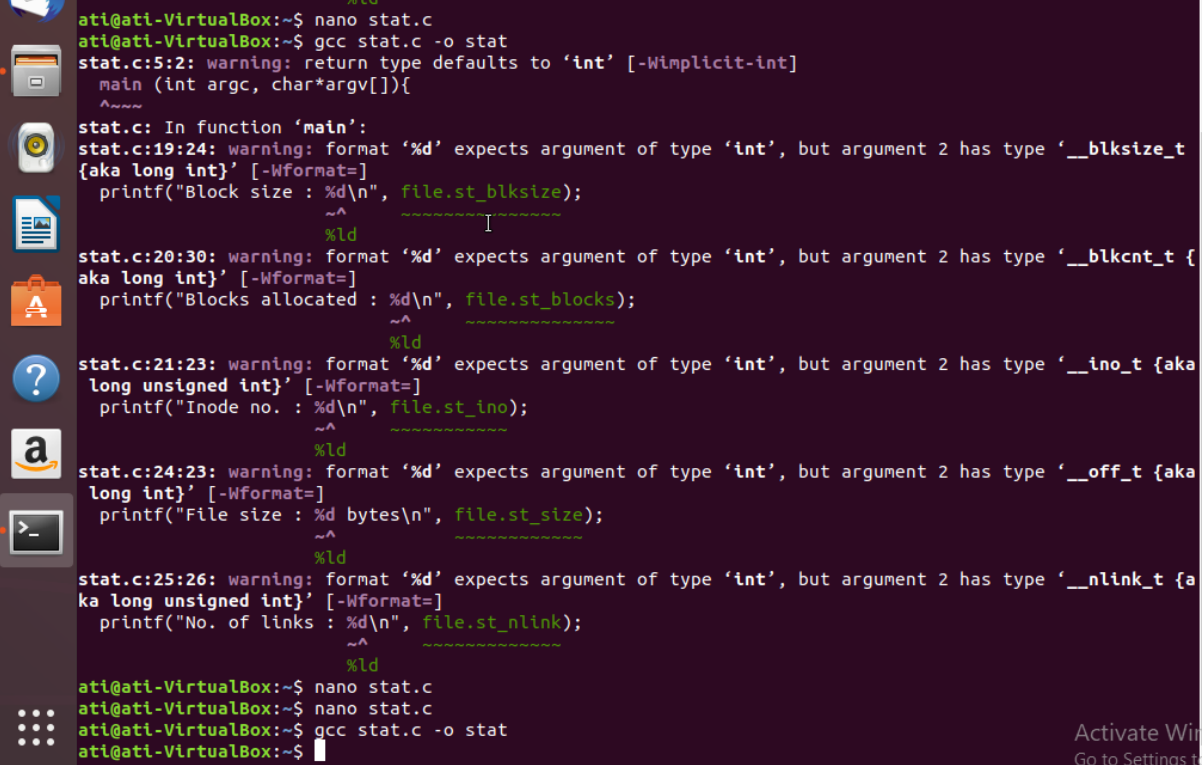


The image shows a terminal window with the GNU nano 2.9.3 editor open, displaying the code for a program named stat.c. The code is written in C and uses the stat system call to retrieve file statistics. The program takes a filename as a command-line argument and prints various file attributes such as user ID, group ID, block size, inode number, and permissions. The code is split across two screenshots.

```
#include <stdio.h>
#include <sys/stat.h>
#include <stdlib.h>
#include <time.h>

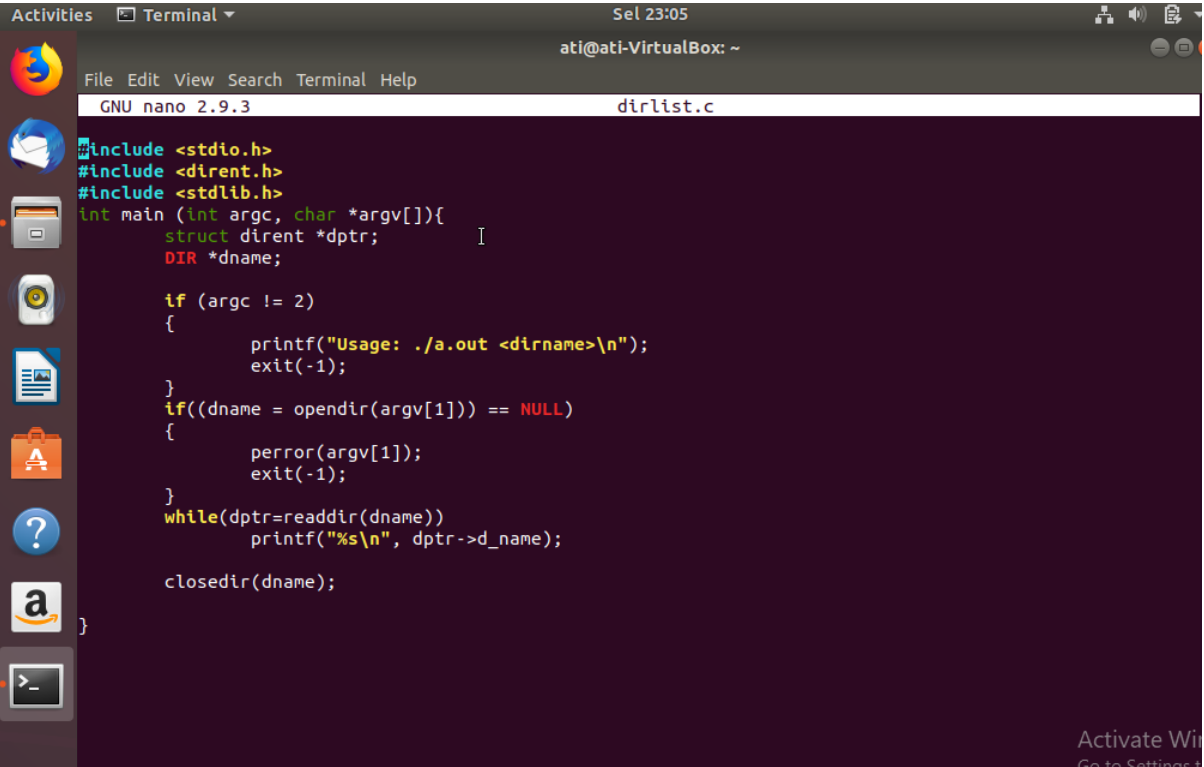
int main (int argc, char*argv[]){
    struct stat
    file; int n;
    if (argc != 2)
    {
        printf("Usage: ./a.out <filename>\n"); exit(-1);
    }
    if ((n = stat(argv[1], &file)) == -1)
    {
        perror(argv[1]);
        exit (-1);
    }
    printf("User id : %d\n", file.st_uid);
    printf("Group id : %d\n", file.st_gid);
    printf("Block size : %ld\n", file.st_blksize);
    printf("Blocks allocated : %ld\n", file.st_blocks);
    printf("Inode no. : %ld\n", file.st_ino);
    printf("Last accessed : %s", ctime(&(file.st_atime)));
    printf("Last modified : %s", ctime(&(file.st_mtime)));
    printf("File size : %ld bytes\n", file.st_size);
    printf("No. of links : %ld\n", file.st_nlink);
    printf("Permissions : ");
    printf( (S_ISDIR(file.st_mode)) ? "d" : "-" );
    printf( (file.st_mode & S_IRUSR) ? "r" : "-");
    printf( (file.st_mode & S_IWUSR) ? "w" : "-");
    printf( (file.st_mode & S_IXUSR) ? "x" : "-");
    printf( (file.st_mode & S_IRGRP) ? "r" : "-");
    printf( (file.st_mode & S_IWGRP) ? "w" : "-");
    printf( (file.st_mode & S_IXGRP) ? "x" : "-");
    printf( (file.st_mode & S_IROTH) ? "r" : "-");
    printf( (file.st_mode & S_IWOTH) ? "w" : "-");
    printf( (file.st_mode & S_IXOTH) ? "x" : "-");
    printf("\n");
    if(file.st_mode & S_IFREG)
        printf("File type : Regular\n");
    if(file.st_mode & S_IFDIR)
        printf("File type : Directory\n");
}
```

Mengecek kode program stat.c ada yang salah tidak menggunakan gcc stat.c -o stat



```
ati@ati-VirtualBox:~$ nano stat.c
ati@ati-VirtualBox:~$ gcc stat.c -o stat
stat.c:5:2: warning: return type defaults to 'int' [-Wimplicit-int]
    main (int argc, char*argv[]){
    ^
stat.c: In function 'main':
stat.c:19:24: warning: format '%d' expects argument of type 'int', but argument 2 has type '__blksize_t {aka long int}' [-Wformat=]
    printf("Block size : %d\n", file.st_blksize);
                           ^~
stat.c:20:30: warning: format '%d' expects argument of type 'int', but argument 2 has type '__blkcnt_t {aka long int}' [-Wformat=]
    printf("Blocks allocated : %d\n", file.st_blocks);
                                   ^~
stat.c:21:23: warning: format '%d' expects argument of type 'int', but argument 2 has type '__ino_t {aka long unsigned int}' [-Wformat=]
    printf("Inode no. : %d\n", file.st_ino);
                           ^~
stat.c:24:23: warning: format '%d' expects argument of type 'int', but argument 2 has type '__off_t {aka long int}' [-Wformat=]
    printf("File size : %d bytes\n", file.st_size);
                           ^~
stat.c:25:26: warning: format '%d' expects argument of type 'int', but argument 2 has type '__nlink_t {aka long unsigned int}' [-Wformat=]
    printf("No. of links : %d\n", file.st_nlink);
                           ^~
ati@ati-VirtualBox:~$ nano stat.c
ati@ati-VirtualBox:~$ nano stat.c
ati@ati-VirtualBox:~$ gcc stat.c -o stat
ati@ati-VirtualBox:~$
```

## 5.Kode Program dirlist.c



```
GNU nano 2.9.3 dirlist.c
#include <stdio.h>
#include <dirent.h>
#include <stdlib.h>
int main (int argc, char *argv[]){
    struct dirent *dptr;
    DIR *dname;

    if (argc != 2)
    {
        printf("Usage: ./a.out <dirname>\n");
        exit(-1);
    }
    if((dname = opendir(argv[1])) == NULL)
    {
        perror(argv[1]);
        exit(-1);
    }
    while(dptr=readdir(dname))
        printf("%s\n", dptr->d_name);

    closedir(dname);
}
```



Mengecek kode program dirlist.c ada yang salah tidak menggunakan gcc dirlist.c -o dirlist

```

print("Block size : %d\n", file.st_blocks);
~^
~^
~^
stat.c:20:30: warning: format '%d' expects argument of type 'int', but argument 2 has type '__blkcnt_t' {aka long int}' [-Wformat=]
printf("Blocks allocated : %d\n", file.st_blocks);
~^
~^
~^
stat.c:21:23: warning: format '%d' expects argument of type 'int', but argument 2 has type '__ino_t' {aka long unsigned int}' [-Wformat=]
printf("Inode no. : %d\n", file.st_ino);
~^
~^
~^
stat.c:24:23: warning: format '%d' expects argument of type 'int', but argument 2 has type '__off_t' {aka long int}' [-Wformat=]
printf("File size : %d bytes\n", file.st_size);
~^
~^
~^
stat.c:25:26: warning: format '%d' expects argument of type 'int', but argument 2 has type '__nlink_t' {aka long unsigned int}' [-Wformat=]
printf("No. of links : %d\n", file.st_nlink);
~^
~^
~^
ati@ati-VirtualBox:~$ nano stat.c
ati@ati-VirtualBox:~$ nano stat.c
ati@ati-VirtualBox:~$ gcc stat.c -o stat
ati@ati-VirtualBox:~$ nano stat.c
ati@ati-VirtualBox:~$ nano dirlist.c
ati@ati-VirtualBox:~$ nano dirlist.c
ati@ati-VirtualBox:~$ gcc dirlist.c -o dirlist
dirlist.c:4:1: warning: return type defaults to 'int' [-Wimplicit-int]
main (int argc, char *argv[]){
~^
~^
~^
ati@ati-VirtualBox:~$ nano dirlist.c
ati@ati-VirtualBox:~$ gcc dirlist.c -o dirlist
ati@ati-VirtualBox:~$

```