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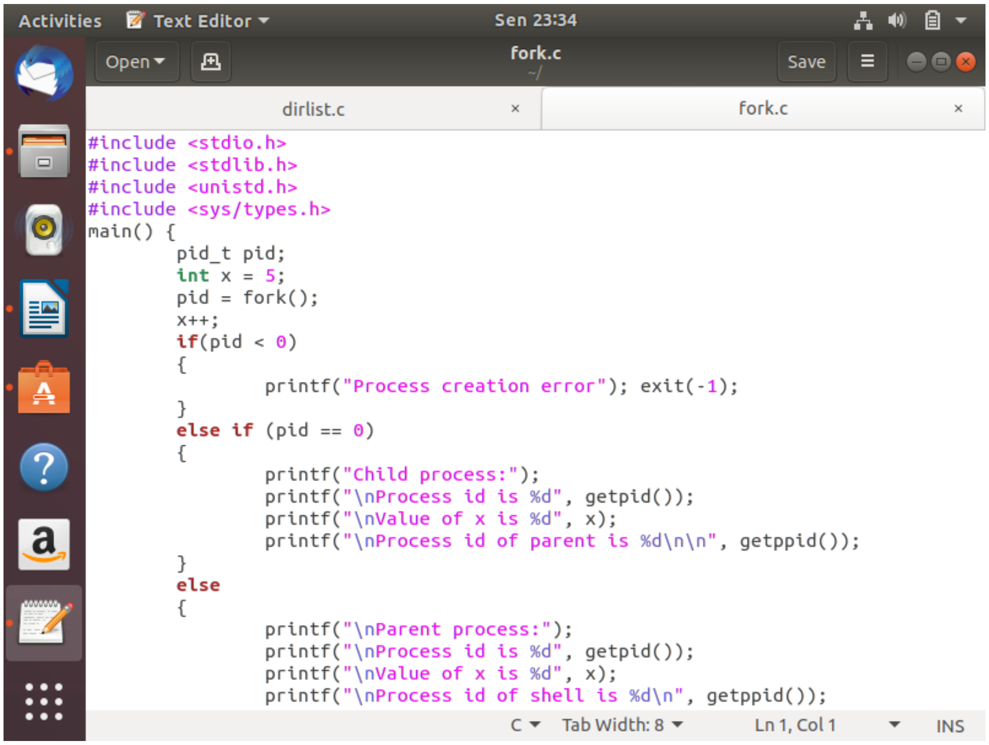
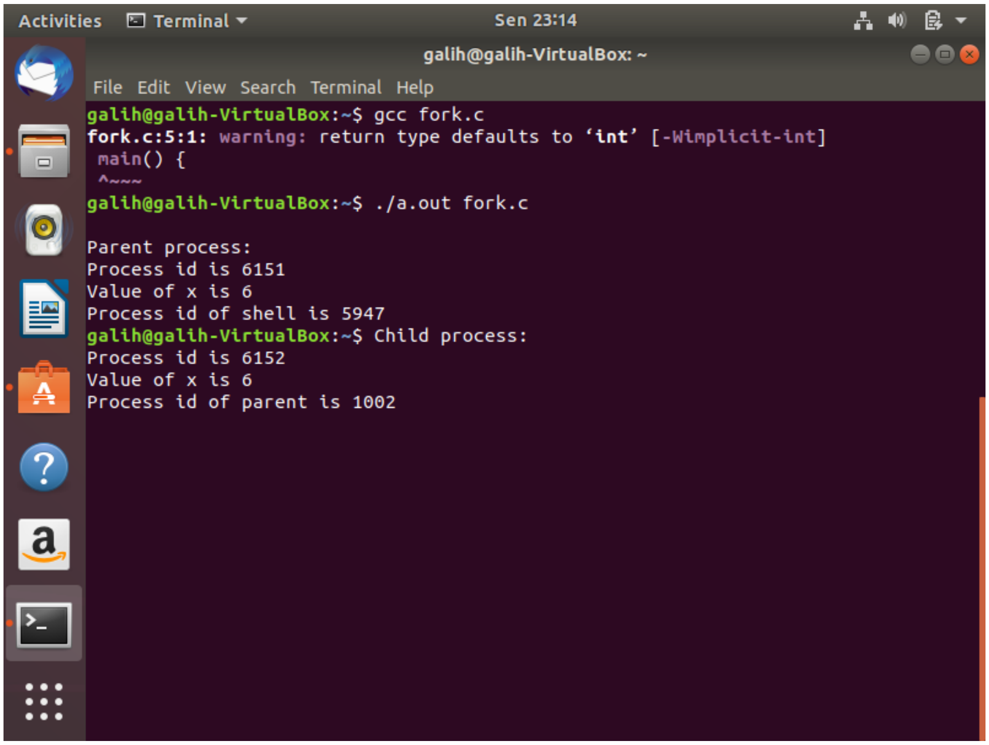
NIM	: L20018000

1. Fork.c

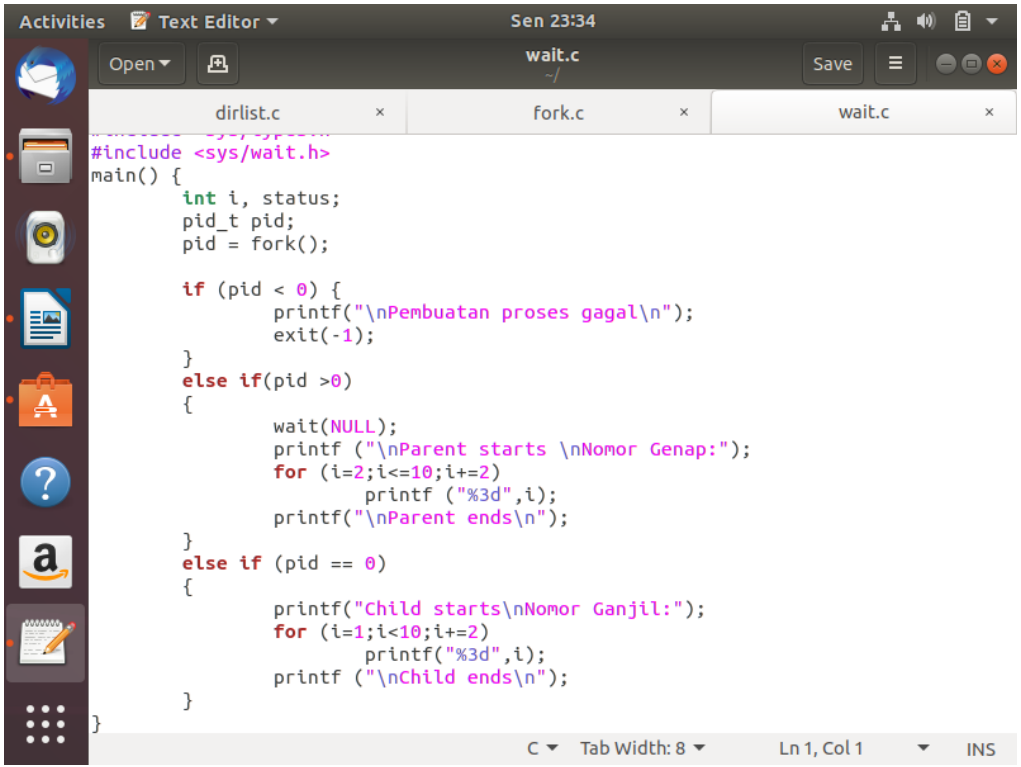


```
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
#include <sys/types.h>
main() {
        pid_t pid;
        int x = 5;
        pid = fork();
        x++;
        if(pid < 0)
        {
                printf("Process creation error"); exit(-1);
        }
        else if (pid == 0)
     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

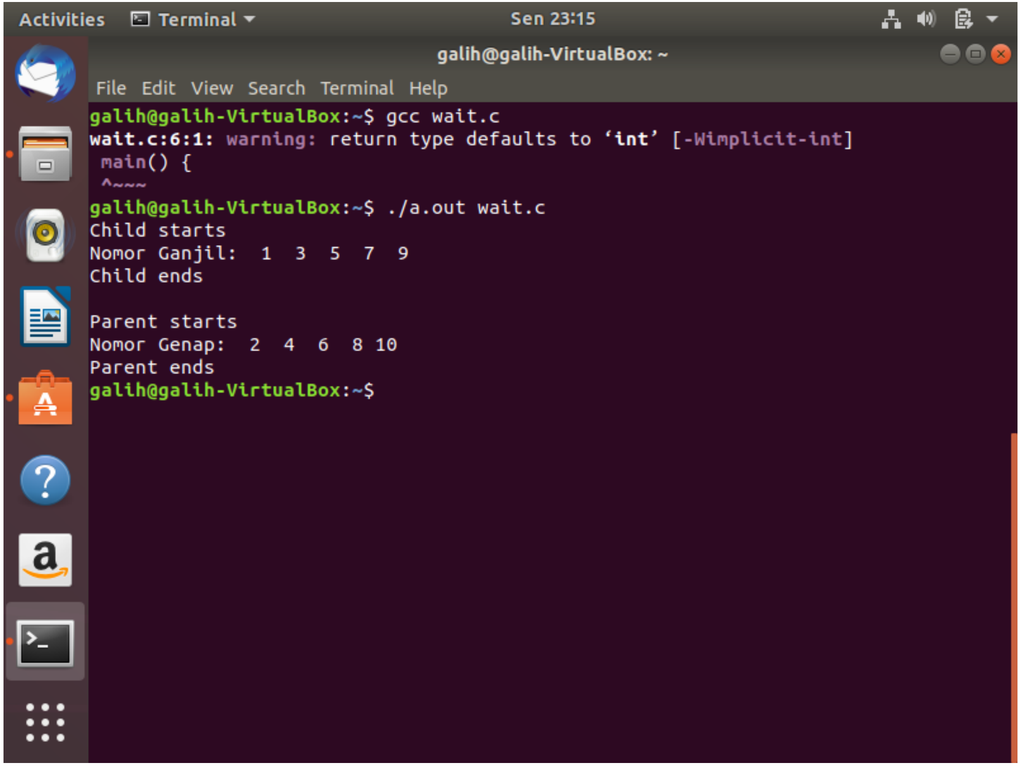


```
galih@galih-VirtualBox:~$ gcc fork.c
fork.c:5:1: warning: return type defaults to ‘int’ [-Wimplicit-int]
 main() {
 ^~~~
galih@galih-VirtualBox:~$ ./a.out fork.c

Parent process:
Process id is 6151
Value of x is 6
Process id of shell is 5947
galih@galih-VirtualBox:~$ Child process:
Process id is 6152
Value of x is 6
Process id of parent is 1002
```

2. Wait.c

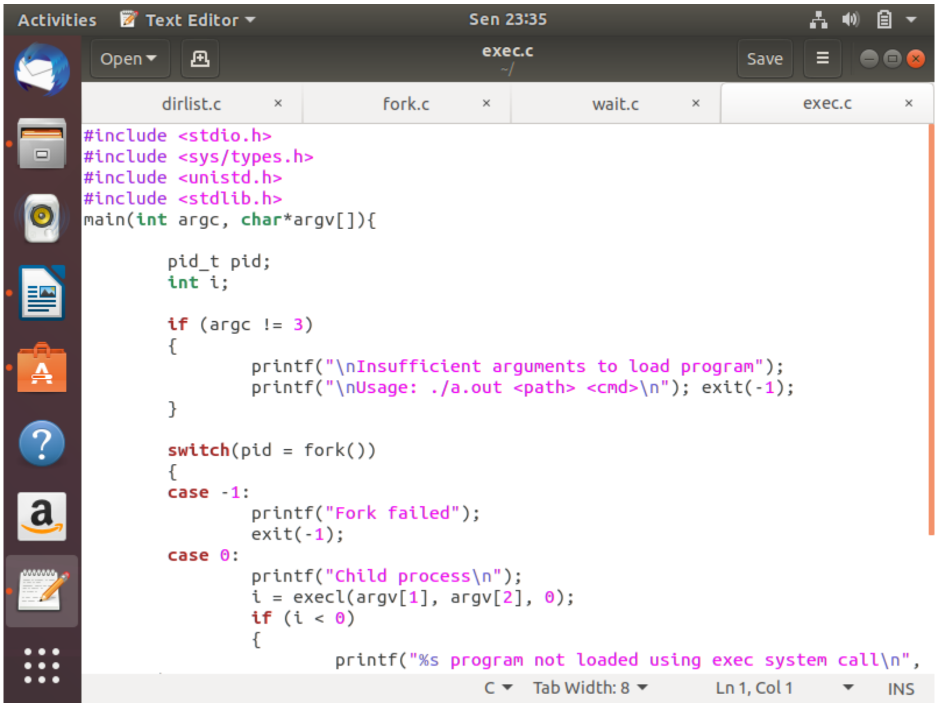


```c
#include <sys/wait.h>
main() {
        int i, status;
        pid_t pid;
        pid = fork();

        if (pid < 0) {
                printf("\nPembuatan proses gagal\n");
                exit(-1);
        }
        else if(pid >0)
        {
                wait(NULL);
                printf ("\nParent starts \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");
        }
}
```

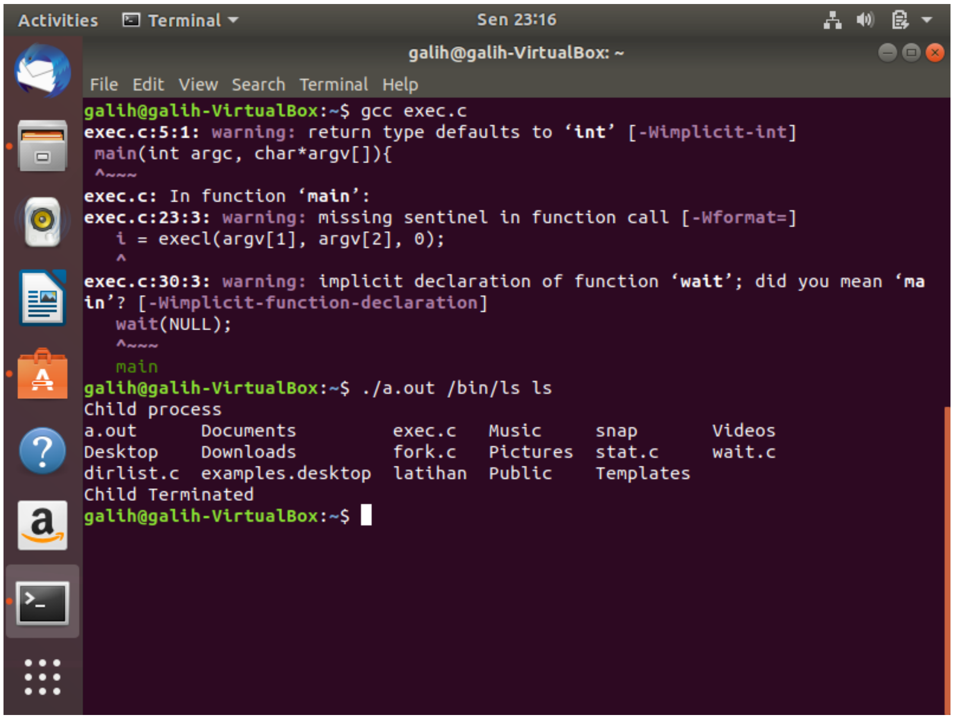

Activities
Terminal
Sen 23:15
galih@galih-VirtualBox: ~
File Edit View Search Terminal Help

```
galih@galih-VirtualBox:~$ gcc wait.c
wait.c:6:1: warning: return type defaults to ‘int’ [-Wimplicit-int]
 main() {
 ^~~~
galih@galih-VirtualBox:~$ ./a.out wait.c
Child starts
Nomor Ganjil:  1  3  5  7  9
Child ends

Parent starts
Nomor Genap:  2  4  6  8 10
Parent ends
galih@galih-VirtualBox:~$
```

3. Exec.c

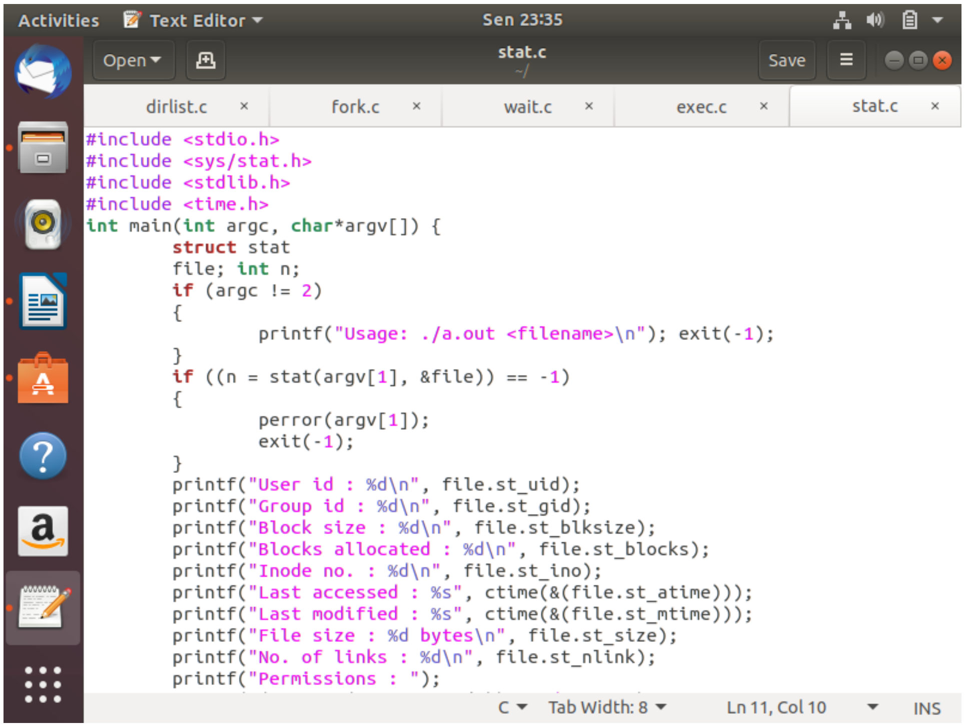


```c
#include <stdio.h>
#include <sys/types.h>
#include <unistd.h>
#include <stdlib.h>
main(int argc, char*argv[]){

        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], 0);
                if (i < 0)
                {
                        printf("%s program not loaded using exec system call\n",
```

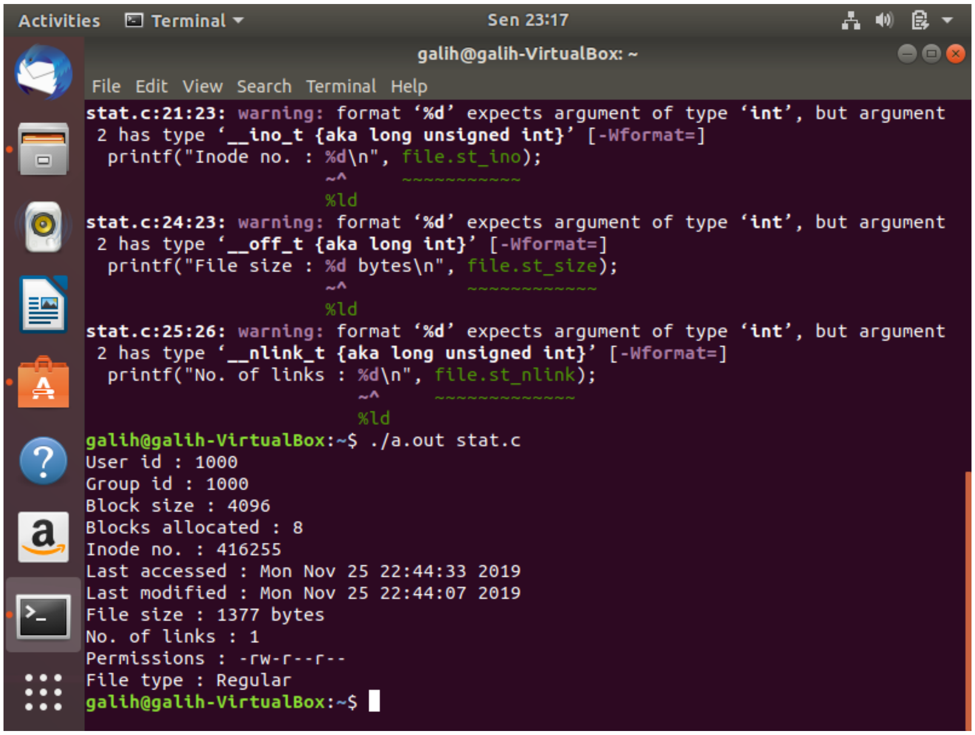


```
galih@galih-VirtualBox:~$ gcc exec.c
exec.c:5:1: warning: return type defaults to ‘int’ [-Wimplicit-int]
 main(int argc, char*argv[]){
 ^~~~
exec.c: In function ‘main’:
exec.c:23:3: warning: missing sentinel in function call [-Wformat=]
   i = execl(argv[1], argv[2], 0);
   ^
exec.c:30:3: warning: implicit declaration of function ‘wait’; did you mean ‘ma
in’? [-Wimplicit-function-declaration]
   wait(NULL);
   ^~~~
   main
galih@galih-VirtualBox:~$ ./a.out /bin/ls ls
Child process
a.out      Documents         exec.c    Music     snap       Videos
Desktop    Downloads         fork.c    Pictures  stat.c     wait.c
dirlist.c  examples.desktop  latihan   Public    Templates
Child Terminated
galih@galih-VirtualBox:~$ 
```

4. Stat.c

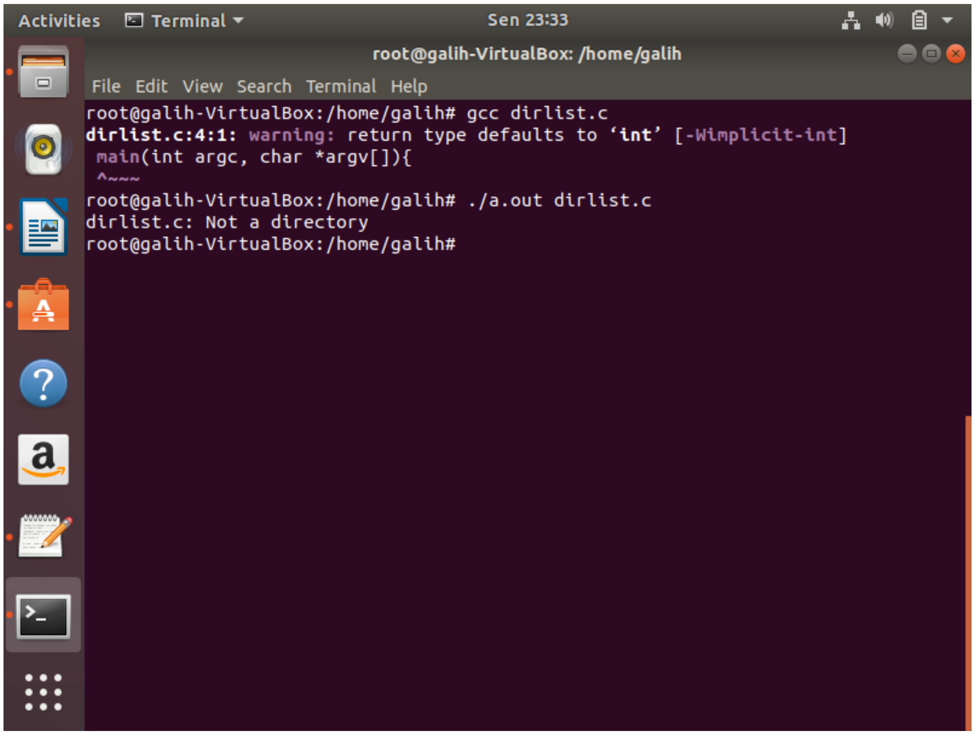


```c
#include <stdio.h>
#include <sys/stat.h>
#include <stdlib.h>
#include <time.h>
int main(int argc, char*argv[]) {
        struct stat
        file; int n;
        if (argc != 2)
        {
                printf("Usage: ./a.out <filename>\n"); exit(-1);
        }
        if ((n = stat(argv[1], &file)) == -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 : %d\n", file.st_blksize);
        printf("Blocks allocated : %d\n", file.st_blocks);
        printf("Inode no. : %d\n", file.st_ino);
        printf("Last accessed : %s", ctime(&(file.st_atime)));
        printf("Last modified : %s", ctime(&(file.st_mtime)));
        printf("File size : %d bytes\n", file.st_size);
        printf("No. of links : %d\n", file.st_nlink);
        printf("Permissions : ");
```

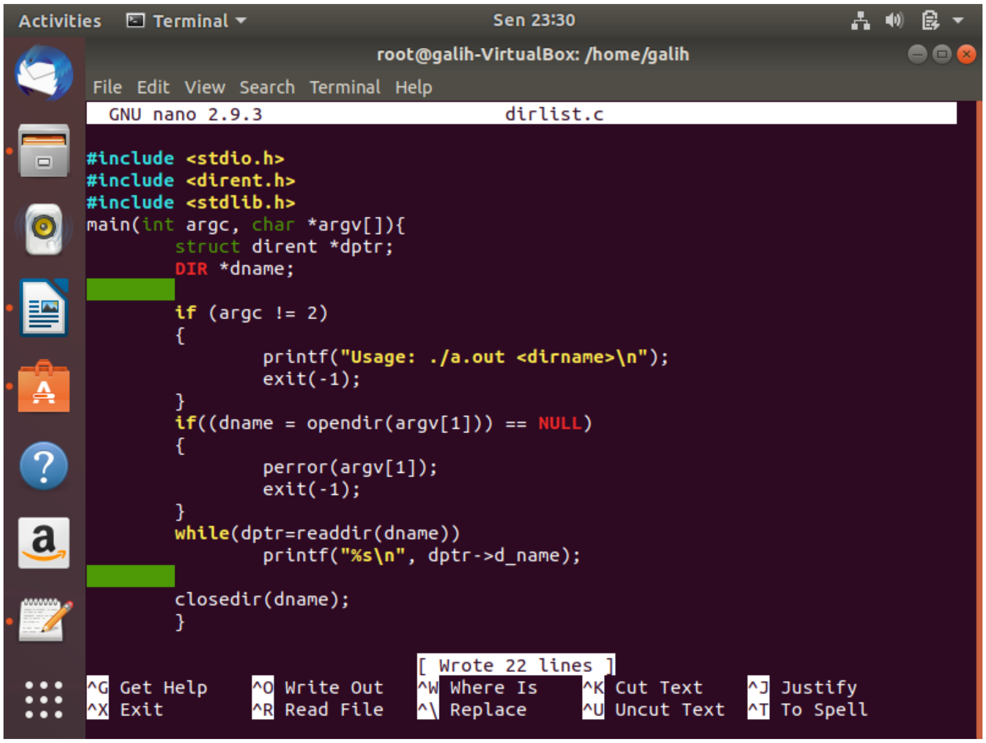

Activities
Terminal
Sen 23:17
galih@galih-VirtualBox: ~
File Edit View Search Terminal Help

```
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);
                      ~^     ~~~~~~~~~~~
                      %ld
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);
                      ~^           ~~~~~~~~~~~~
                      %ld
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);
                         ~^     ~~~~~~~~~~~~~
                         %ld
galih@galih-VirtualBox:~$ ./a.out stat.c
User id : 1000
Group id : 1000
Block size : 4096
Blocks allocated : 8
Inode no. : 416255
Last accessed : Mon Nov 25 22:44:33 2019
Last modified : Mon Nov 25 22:44:07 2019
File size : 1377 bytes
No. of links : 1
Permissions : -rw-r--r--
File type : Regular
galih@galih-VirtualBox:~$
```

5. Dirlist.c


Activities
Terminal
Sen 23:33
root@galih-VirtualBox: /home/galih
File Edit View Search Terminal Help

```
root@galih-VirtualBox:/home/galih# gcc dirlist.c
dirlist.c:4:1: warning: return type defaults to ‘int’ [-Wimplicit-int]
 main(int argc, char *argv[]){
 ^~~~
root@galih-VirtualBox:/home/galih# ./a.out dirlist.c
dirlist.c: Not a directory
root@galih-VirtualBox:/home/galih#
```


Activities
Terminal
Sen 23:30
root@galih-VirtualBox: /home/galih
File Edit View Search Terminal Help

```
  GNU nano 2.9.3                        dirlist.c

#include <stdio.h>
#include <dirent.h>
#include <stdlib.h>
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);
        }
                              [ Wrote 22 lines ]
^G Get Help     ^O Write Out    ^W Where Is     ^K Cut Text     ^J Justify
^X Exit         ^R Read File    ^\ Replace      ^U Uncut Text   ^T To Spell
```