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TUGAS PRAKTIKUM SO MODUL 8

The image shows a virtual machine environment with two windows. The top window displays the source code of a C program named `dirlist.c` in the `nano` text editor. The code includes `stdio.h`, `dirent.h`, and `stdlib.h`. It defines a `main` function that takes two arguments: `argc` and `argv`. It uses `opendir` to open a directory, `readdir` to iterate through its contents, and `printf` to print the name of each file. The bottom window shows the output of the compilation and execution. It starts with the command `gcc stat.c -o stat` and displays several compiler warnings about format specifiers. Then, it shows the execution of `./a.out stat.c`, which prints the file's metadata, including user ID, group ID, block size, blocks allocated, inode number, last accessed and modified times, file size, number of links, permissions, and file type.

```
root@cecylla-VirtualBox: /home/cecylla
File Edit View Search Terminal Help
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);
}
```

```
root@cecylla-VirtualBox:/home/cecylla# gcc stat.c -o stat
stat.c: In function 'main':
stat.c:19:31: 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);
                               ~^
                               %ld
stat.c:20:37: 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);
                               ~^
                               %ld
stat.c:21:30: 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:24:30: 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
root@cecylla-VirtualBox:/home/cecylla# ./a.out stat.c
User id : 0
Group id : 0
Block size : 4096
Blocks allocated : 8
Inode no. : 292558
Last accessed : Sun Dec 1 19:00:35 2019
Last modified : Sat Nov 23 22:42:22 2019
File size : 1473 bytes
No. of links : 1
Permissions : -rw-r--r--
File type : Regular
root@cecylla-VirtualBox:/home/cecylla#
```

```
Ubuntu [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

Activities Terminal
root@cecyllia-VirtualBox: /home/cecyllia
Min 19:03
root@cecyllia-VirtualBox: /home/cecyllia# nano stat.c
root@cecyllia-VirtualBox: /home/cecyllia# gcc stat.c -o stat
stat.c: In function 'main':
stat.c:19:31: 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:20:37: 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:21:30: 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:24:30: 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);
                             ^~
root@cecyllia-VirtualBox: /home/cecyllia# ./a.out stat.c
User id : 0
Group id : 0
Block size : 4096
Blocks allocated : 8
Inode no. : 292558
Last accessed : Sun Dec 1 19:00:35 2019
```

```
Ubuntu [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help

Activities Terminal
root@cecyllia-VirtualBox: /home/cecyllia
Min 19:02
GNU nano 2.9.3 stat.c
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 : ");
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");
```

```
root@cecyllia-VirtualBox: /home/cecyllia
GNU nano 2.9.3 stat.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 : ");
    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" : "-");
}

root@cecyllia-VirtualBox:/home/cecyllia# nano dirlist.c
root@cecyllia-VirtualBox:/home/cecyllia# gcc dirlist.c
root@cecyllia-VirtualBox:/home/cecyllia# ./a.out /home/cecyllia
a.out
.bashrc
.profile
hello.c
stat.c
dirlist
stat.c.save
.bash_history
Desktop
Downloads
.bash_logout
dirlist.c
Pictures
.sudo_as_admin_successful
snap
Music
.cache
.gnupg
.config
.ICEauthority
Public
.local
hello
Videos
Templates
.
Documents
.mozilla
.ssh
stat
root@cecyllia-VirtualBox:/home/cecyllia#
```

Maaf kak sebelumnya kalo usernya atas nama cecyllia, karena pakai linux di laptop saya tidak bisa.  
Terus pas mencoba di laptop cecyllia pakai username saya juga tidak bisa.  
Tapi ini buat ulang kok kak.