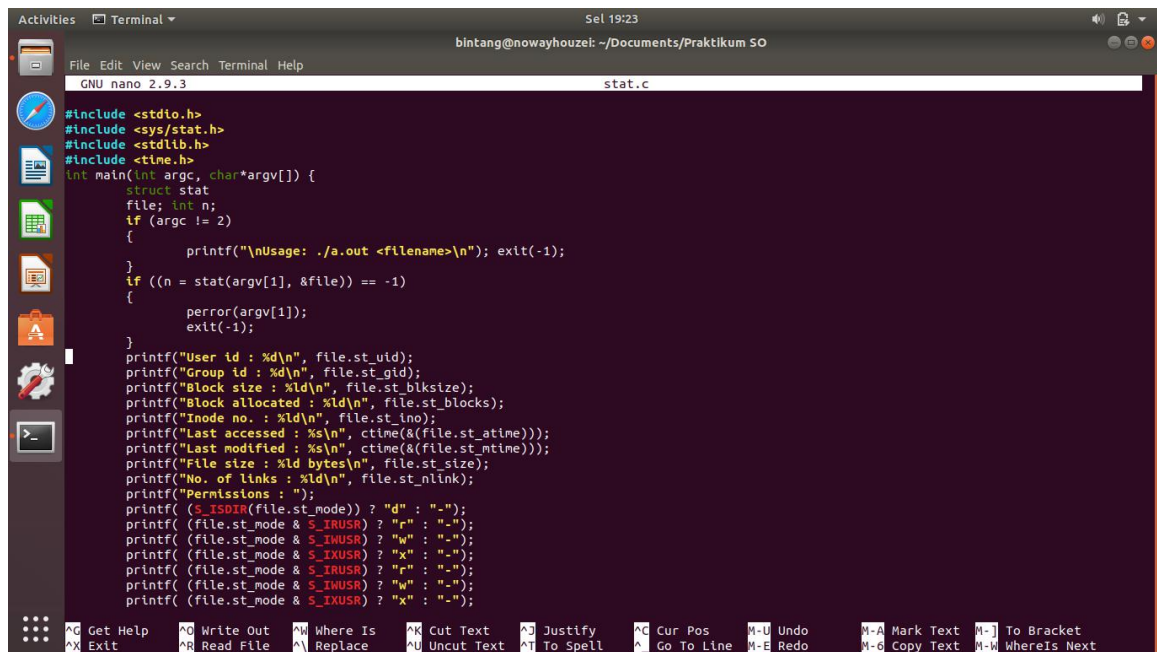


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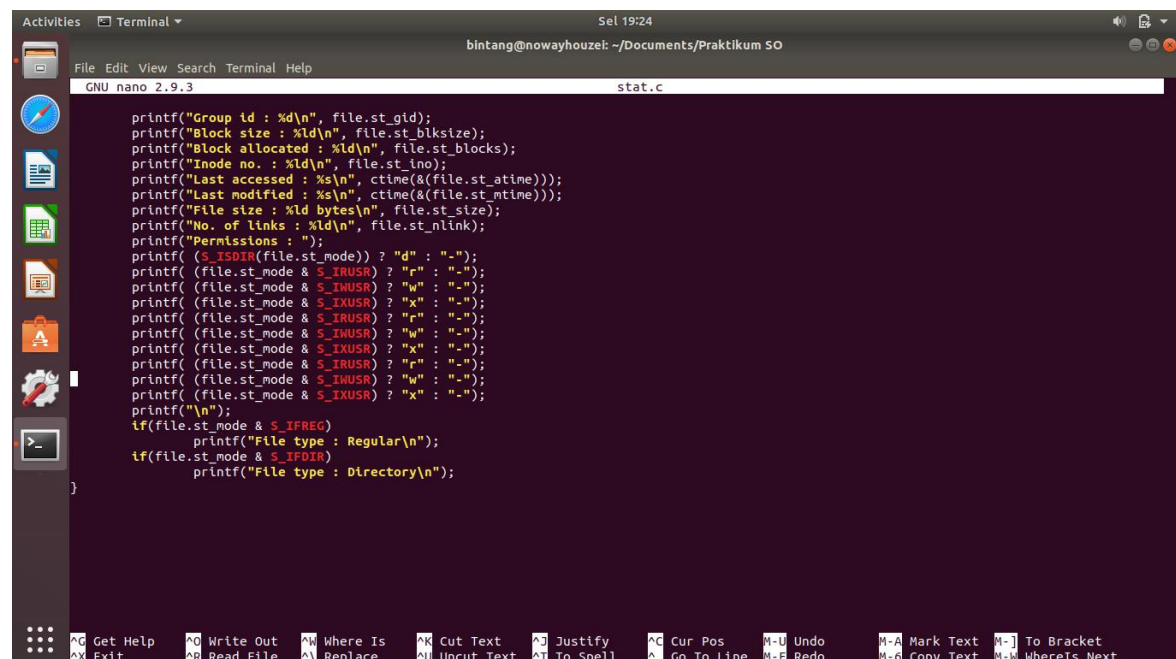
Modul 8 Praktikum 4 dan 5

A screenshot of a terminal window showing the GNU nano 2.9.3 editor editing a file named stat.c. The code defines a main function that takes arguments and prints various file statistics using printf. The statistics include user and group IDs, block size and allocation, inode number, last accessed and modified times, file size, number of links, and permissions. The permissions are broken down into read, write, and execute bits for owner, group, and others. The code is as follows:

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

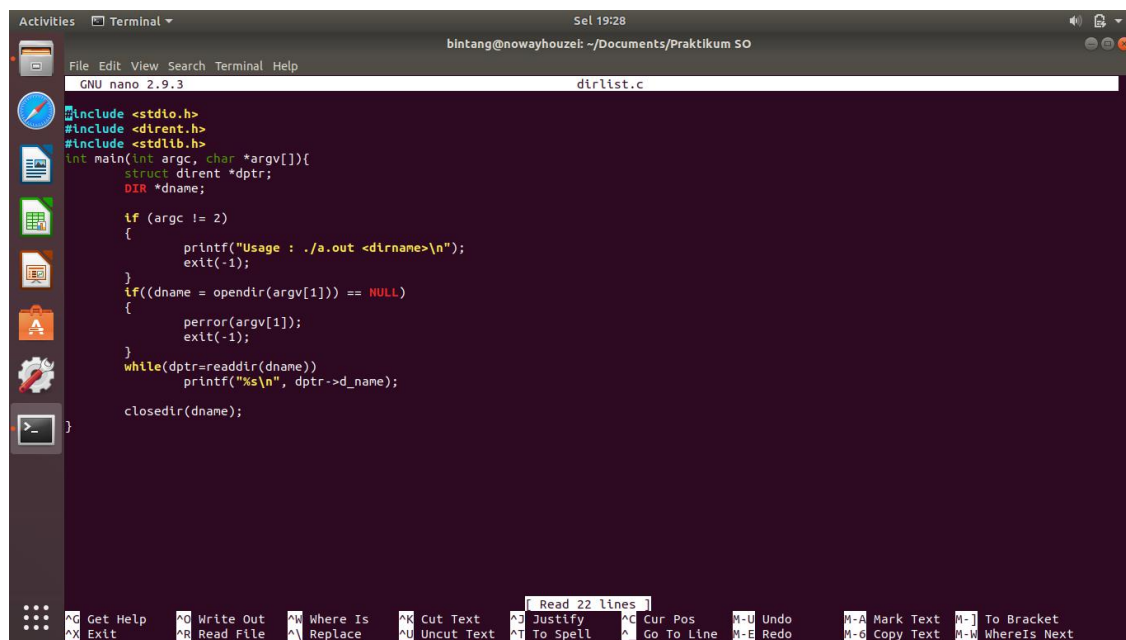
int main(int argc, char*argv[]) {
    struct stat
    file; int n;
    if (argc != 2)
    {
        printf("\nUsage: ./a.out <filename>\n"); exit(-1);
    }
    if ((n = stat(argv[1], &file)) == -1)
    {
        perror(argv[1]);
        exit(-1);
    }
    printf("User id : %d\n", file.st_uid);
    printf("Group id : %d\n", file.st_gid);
    printf("Block size : %d\n", file.st_blksize);
    printf("Block allocated : %d\n", file.st_blocks);
    printf("Inode no. : %d\n", file.st_ino);
    printf("Last accessed : %s\n", ctime(&(file.st_atime)));
    printf("Last modified : %s\n", 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_IRUSR) ? "r" : "-");
    printf( (file.st_mode & S_IWUSR) ? "w" : "-");
    printf( (file.st_mode & S_IXUSR) ? "x" : "-");
```

Gambar.1 nano stat.c part 1

A screenshot of a terminal window showing the GNU nano 2.9.3 editor editing a file named stat.c. The code continues from the previous part, printing the permissions and then the file type. The file type is determined by checking if the file is a regular file or a directory. The code is as follows:

```
printf("Group id : %d\n", file.st_gid);
printf("Block size : %d\n", file.st_blksize);
printf("Block allocated : %d\n", file.st_blocks);
printf("Inode no. : %d\n", file.st_ino);
printf("Last accessed : %s\n", ctime(&(file.st_atime)));
printf("Last modified : %s\n", 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_IRUSR) ? "r" : "-");
printf( (file.st_mode & S_IWUSR) ? "w" : "-");
printf( (file.st_mode & S_IXUSR) ? "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");
}
```

Gambar.2 nano stat.c part 2



```
GNU nano 2.9.3 dirlist.c

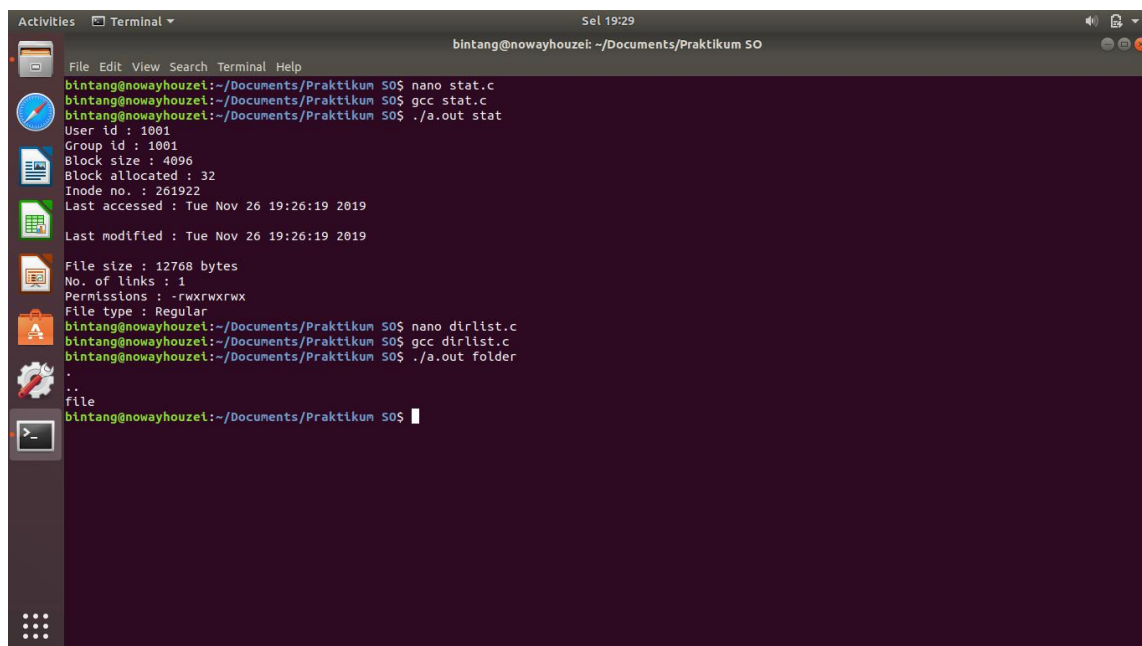
#include <stdio.h>
#include <dirent.h>
#include <stdlib.h>

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);
}
```

Gambar.3 nano dirlist.c



```
bintang@nowayhouzel:~/Documents/Praktikum SO$ nano stat.c
bintang@nowayhouzel:~/Documents/Praktikum SO$ gcc stat.c
bintang@nowayhouzel:~/Documents/Praktikum SO$ ./a.out stat
User id : 1001
Group id : 1001
Block size : 4096
Block allocated : 32
Inode no. : 261922
Last accessed : Tue Nov 26 19:26:19 2019
Last modified : Tue Nov 26 19:26:19 2019
File size : 12768 bytes
No. of links : 1
Permissions : -rwxrwxrwx
File type : Regular
bintang@nowayhouzel:~/Documents/Praktikum SO$ nano dirlist.c
bintang@nowayhouzel:~/Documents/Praktikum SO$ gcc dirlist.c
bintang@nowayhouzel:~/Documents/Praktikum SO$ ./a.out folder
..
file
bintang@nowayhouzel:~/Documents/Praktikum SO$
```

Gambar.4 membuat nano stat.c, nano dirlist.c, pemanggilan nano stat.c dan nano dirlist.c, dan hasil outputnya