

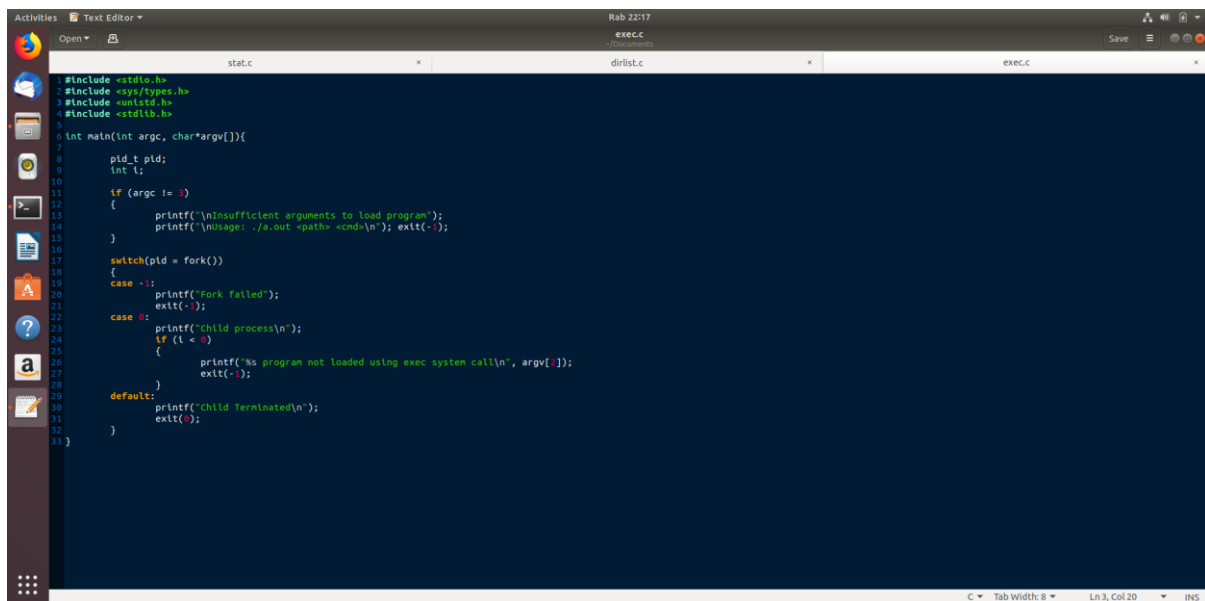
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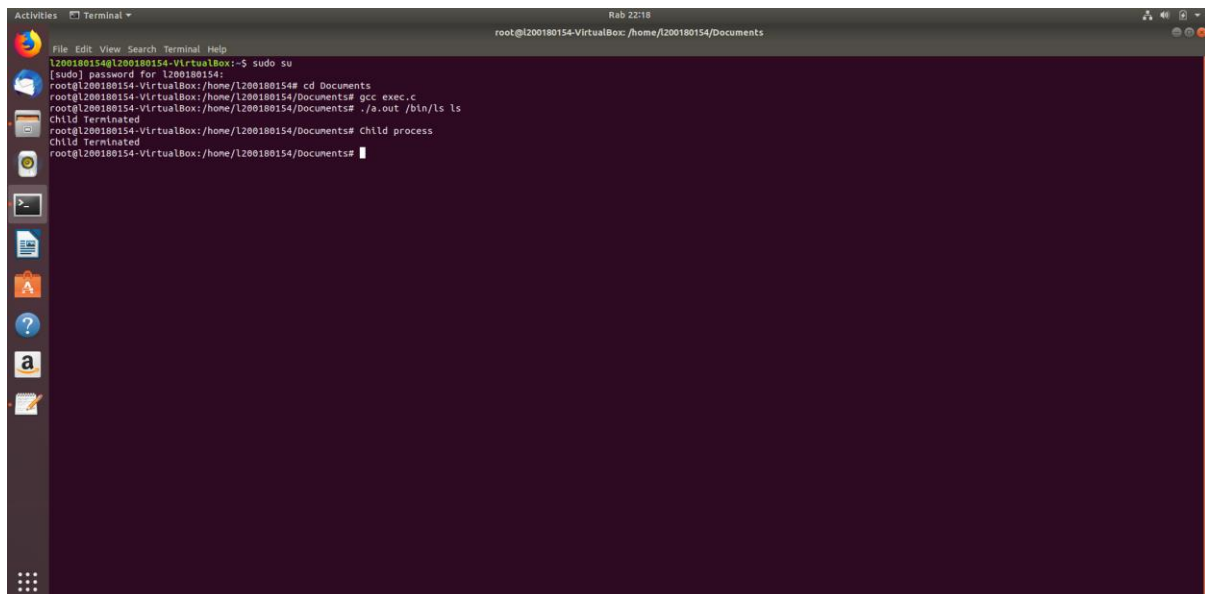
Kelas : D

## Tugas Praktikum Sistem Operasi

### 1. exec.c

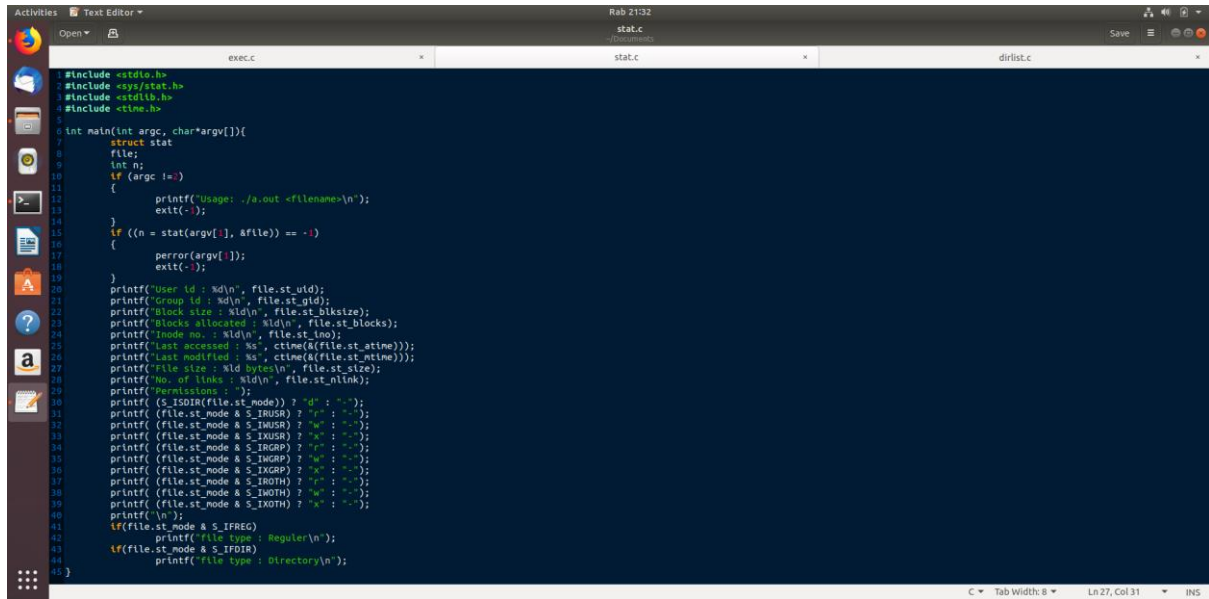


```
1#include <stdio.h>
2#include <sys/types.h>
3#include <unistd.h>
4#include <stdlib.h>
5
6int main(int argc, char*argv[]){
7
8    pid_t pid;
9    int i;
10
11    if (argc != 3)
12    {
13        printf("\nInsufficient arguments to load program");
14        printf("\nUsage: ./a.out <path> <cmd>\n"); exit(-1);
15    }
16
17    switch(pid = fork())
18    {
19        case -1:
20            printf("Fork failed");
21            exit(-1);
22        case 0:
23            printf("Child process\n");
24            if (i < 0)
25            {
26                printf("No program not loaded using exec system call\n", argv[i]);
27                exit(-1);
28            }
29        default:
30            printf("Child Terminated\n");
31            exit(0);
32    }
33}
```



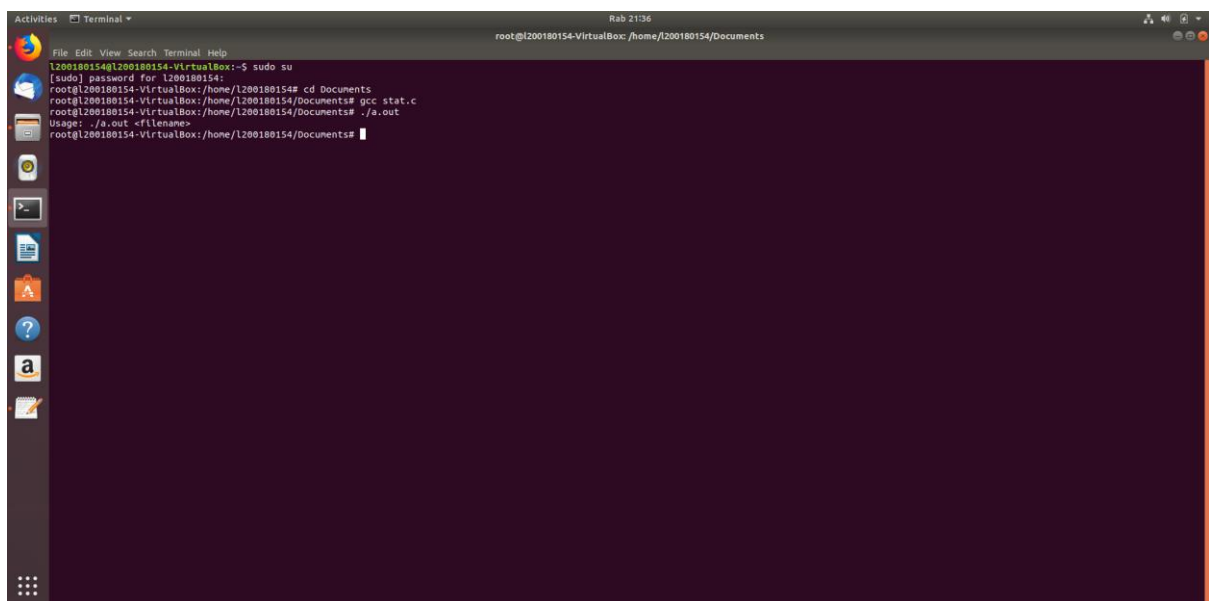
```
root@l200180154-VirtualBox: /home/l200180154/Documents
l200180154@l200180154-VirtualBox:~$ sudo su
[sudo] password for l200180154:
root@l200180154-VirtualBox: /home/l200180154# cd Documents
root@l200180154-VirtualBox: /home/l200180154/Documents# gcc exec.c
root@l200180154-VirtualBox: /home/l200180154/Documents# ./a.out /bin/ls ls
Child process
Child Terminated
root@l200180154-VirtualBox: /home/l200180154/Documents#
```

## 2. stat.c



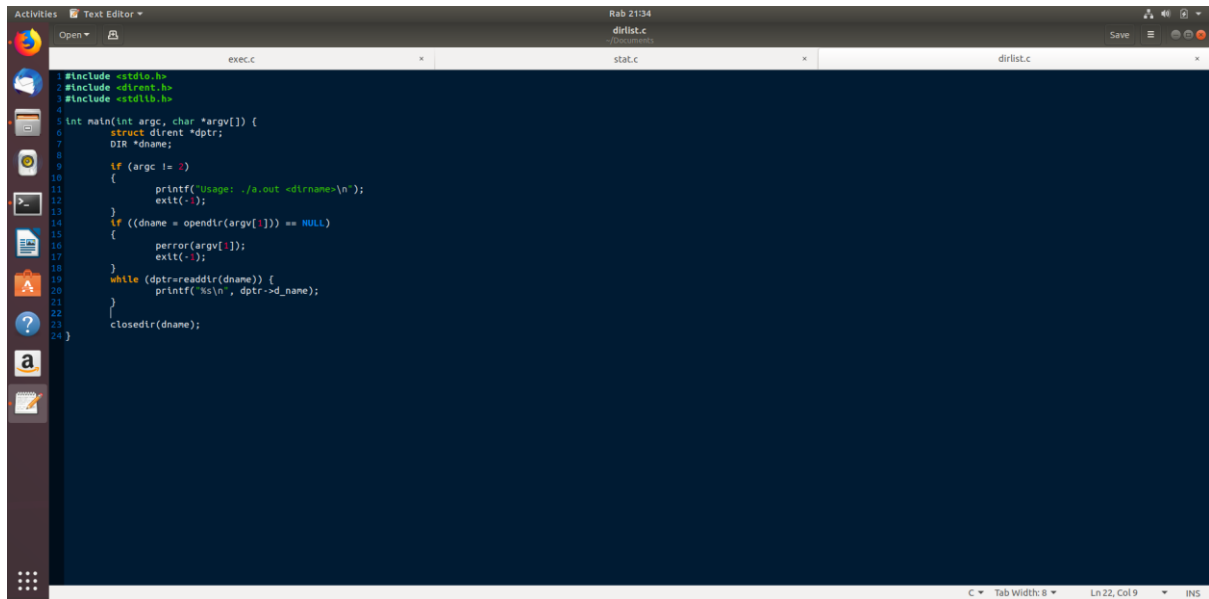
```
#include <stdio.h>
#include <sys/stat.h>
#include <stdlib.h>
#include <time.h>

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" : "-");
    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");
}
```

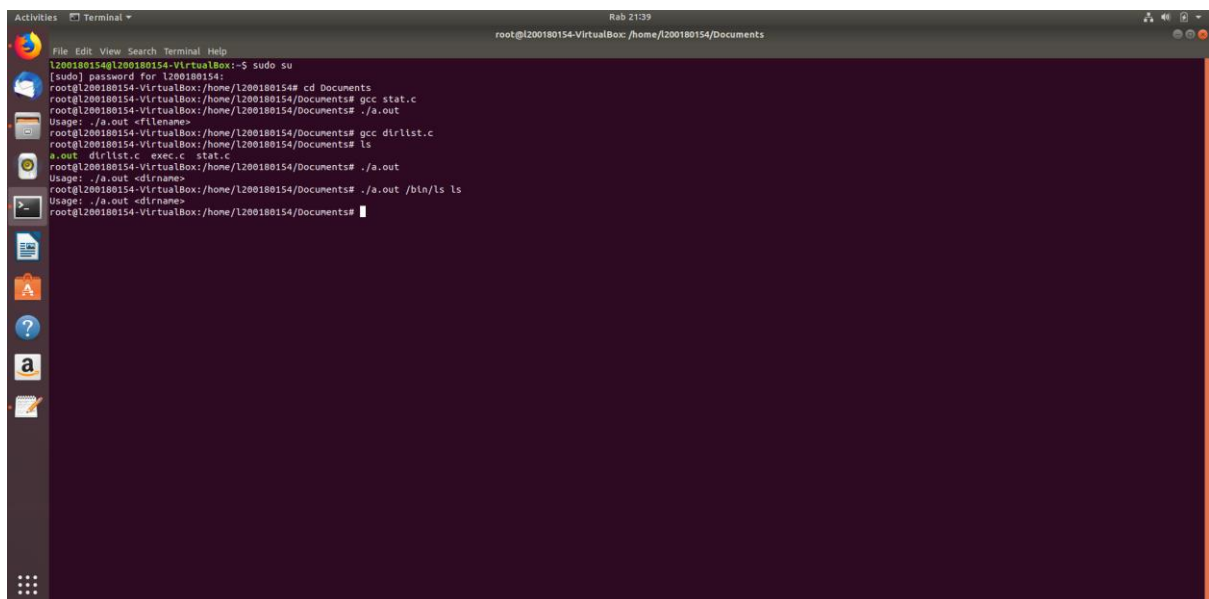


```
File Edit View Search Terminal Help
root@l200180154-VirtualBox:~/l200180154/Documents
l200180154@l200180154-VirtualBox:~$ sudo su
[sudo] password for l200180154:
root@l200180154-VirtualBox:~/l200180154$ cd Documents
root@l200180154-VirtualBox:~/l200180154/Documents$ gcc stat.c
root@l200180154-VirtualBox:~/l200180154/Documents$ ./a.out
Usage: ./a.out <filename>
root@l200180154-VirtualBox:~/l200180154/Documents$
```

### 3. dirlist.c



```
1 #include <stdlib.h>
2 #include <dirent.h>
3 #include <stdio.h>
4
5 int main(int argc, char *argv[]) {
6     struct dirent *dptr;
7     DIR *dname;
8
9     if (argc != 2)
10     {
11         printf("Usage: ./a.out <dirname>\n");
12         exit(-1);
13     }
14     if ((dname = opendir(argv[1])) == NULL)
15     {
16         perror(argv[1]);
17         exit(-1);
18     }
19     while (dptr=readdir(dname)) {
20         printf("%s\n", dptr->d_name);
21     }
22     closedir(dname);
23 }
24
```



```
root@l200180154-VirtualBox:/home/l200180154/Documents
l200180154@l200180154-VirtualBox:~$ sudo su
[sudo] password for l200180154:
root@l200180154-VirtualBox:/home/l200180154# cd Documents
root@l200180154-VirtualBox:/home/l200180154/Documents# gcc stat.c
root@l200180154-VirtualBox:/home/l200180154/Documents# ./a.out
Usage: ./a.out <filename>
root@l200180154-VirtualBox:/home/l200180154/Documents# gcc dirlist.c
root@l200180154-VirtualBox:/home/l200180154/Documents# ls
a.out dirlist.c exec.c stat.c
root@l200180154-VirtualBox:/home/l200180154/Documents# ./a.out
Usage: ./a.out <dirname>
root@l200180154-VirtualBox:/home/l200180154/Documents# ./a.out /bin/ls ls
Usage: ./a.out <dirname>
root@l200180154-VirtualBox:/home/l200180154/Documents#
```