

**TUGAS**  
**PRAKTIKUM SISTEM OPERASI**  
**MODUL 10 SIMULASI COMMAND (PERINTAH)**



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**PROGRAM STUDI TEKNIK INFORMATIKA**  
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**UNIVERSITAS MUHAMMADIYAH SURAKARTA TAHUN 2022/2023**

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## Langkah Kerja

### 1. Program untuk mensimulasi perintah 'ls'.

```
dian@dian-VirtualBox:~$ gcc list.c -o list
list.c:3:2: warning: return type defaults to 'int' [-Wimplicit-int]
3 | main(){
  | ^~~~~~
list.c: In function 'main':
list.c:7:9: warning: implicit declaration of function 'getcwd'; did you mean 'getw'? [-Wimplicit-function-declaration]
7 |     getcwd(pathname);
  |     ^~~~~~
dian@dian-VirtualBox:~$ ./list
Desktop  Videos  Documents  Downloads  Music  Pictures  Public  Templates
ate.c    stat.c    fork.c     test.txt  fread    wait.c    fread.c   fappend   list     fappend.c  list.c    fcreate  snap     fcre
```

Screenshot dari terminal list.c

```
1 #include <stdio.h>
2 #include <dirent.h>
3 main(){
4     struct dirent
5     **namelist; int n,i;
6     char pathname[100];
7     getcwd(pathname);
8
9     n = scandir(pathname, &namelist, 0, alphasort);
10    if(n < 0)
11        printf("Error/n");
12    else
13        for(i=0; i<n; i++) if(namelist[i]->d_name[0] != '.')
14            printf("%-20s", namelist[i]->d_name);
15 }
```

Screenshot dari kode list.c

### 2. Program untuk mensimulasi perintah 'grep'.

```
dian@dian-VirtualBox:~$ gcc mygrep.c -o mygrep
mygrep.c:4:1: warning: return type defaults to 'int' [-Wimplicit-int]
4 | main(int argc,char *argv[]){
  | ^~~~~~
dian@dian-VirtualBox:~$ ./mygrep Hai test.txt
Hai Dian
dian@dian-VirtualBox:~$
```

Screenshot dari terminal mygrep.c

```
Open  mygrep.c  Save  -  +  x
list.c  mygrep.c  test.txt
1 #include <stdio.h>
2 #include <stdlib.h>
3 #include <string.h>
4 main(int argc, char *argv[]){
5     FILE *fd;
6     char str[100];
7     char c;
8     int i, flag, j, m, k;
9     char temp[30];
10
11     if (argc != 3)
12     {
13         printf("Usage: gcc mygrep.c -o mygrep\n");
14         printf("Usage: ./mygrep <search_text> <filename>\n");
15         exit(-1);
16     }
17
18     fd = fopen(argv[2], "r");
19     if (fd == NULL)
20     {
21         printf("%s is not exist\n", argv[2]);
22         exit(-1);
23     }
24     while (!feof(fd))
25     {
26         i = 0;
27         while (1)
28         {
29             c = fgetc(fd);
30             if (feof(fd))
31             {
32                 str[i++] = '\0'; break;
33             }
34             if (c == '\n')
35             {
36                 str[i++] = '\0'; break;
37             }
38             str[i++] = c;
39         }
40
41         if (strlen(str) >= strlen(argv[1]))
42         for (k=0; k<=strlen(str)-strlen(argv[1]); k++)
43         {
44             for (m=0; m<strlen(argv[1]); m++)
45                 temp[m] = str[k+m];
46             temp[m] = '\0';
47             if (strcmp(temp, argv[1]) == 0)
48             {
49                 printf("%s\n", str);
50                 break;
51             }
52         }
53     }
54 }
55
```

Screenshot dari kode mygrep.c

### 3. Program untuk mensimulasi perintah 'cp'.

```
pclose
dian@dian-VirtualBox:~$ gcc copy.c -o copy
copy.c:6:1: warning: return type defaults to 'int' [-Wimplicit-int]
6 | main(int argc, char *argv[]){
  | ~~~~~
copy.c: In function 'main':
copy.c:25:25: warning: implicit declaration of function 'read'; did you mean 'fread'? [-Wimplicit-function-declaration]
25 | while ((nread = read(src, buf, SIZE)) > 0)
    |                   ^~~~~
    |                   fread
copy.c:27:21: warning: implicit declaration of function 'write'; did you mean 'fwrite'? [-Wimplicit-function-declaration]
27 | if (write(dst, buf, nread) == -1)
    |     ^~~~~
    |     fwrite
copy.c:33:9: warning: implicit declaration of function 'close'; did you mean 'pclose'? [-Wimplicit-function-declaration]
33 | close(src);
    |     ^~~~~
    |     pclose
dian@dian-VirtualBox:~$ ./copy test.txt test1.txt
dian@dian-VirtualBox:~$ ls
copy  dirlist.c  exec.c  fcreate  fread  list.c  mygrep.c  snap  test1.txt  wait.c
copy.c  Documents  fappend  fcreate.c  fread.c  Music  Pictures  stat.c  test.txt
Desktop  Downloads  fappend.c  fork.c  list  mygrep  Public  Templates  Videos
dian@dian-VirtualBox:~$ cat test.txt
Hai Dian
Bangun kesiangan ya?
dian@dian-VirtualBox:~$ cat test1.txt
Hai Dian
Bangun kesiangan ya?
dian@dian-VirtualBox:~$
```

Screenshot dari terminal copy.c

```
list.c      x      mygrep.c      x      copy.c      x
1 #include <stdio.h>
2 #include <stdlib.h>
3 #include <fcntl.h>
4 #include <sys/stat.h>
5 #define SIZE 1024
6 main(int argc, char *argv[]){
7     int src, dst, nread;
8     char buf[SIZE];
9     if (argc != 3)
10    {
11        printf("Usage; gcc copy.c -o copy\n");
12        printf("Usage; ./copy <search_text> <newfile>\n");
13        exit(-1);
14    }
15    if ((src = open(argv[1], O_RDONLY)) == -1)
16    {
17        perror(argv[1]);
18        exit(-1);
19    }
20    if ((dst = creat(argv[2], 0644)) == -1)
21    {
22        perror(argv[1]);
23        exit(-1);
24    }
25    while ((nread = read(src, buf, SIZE)) > 0)
26    {
27        if (write(dst, buf, nread) == -1)
28        {
29            printf("can't write\n");
30            exit(-1);
31        }
32    }
33    close(src);
34    close(dst);
35 }
```

*Screenshot dari kode copy.c*

#### 4. Program untuk mensimulasi perintah 'rm'.

```
dian@dian-VirtualBox:~$ gcc del.c -o del
del.c:4:1: warning: return type defaults to 'int' [-Wimplicit-int]
4 | main(int argc, char *argv[]){
  | ~~~~~
del.c: In function 'main':
del.c:15:17: warning: implicit declaration of function 'close'; did you mean 'pclose'? [-Wimplicit-function-declaration]
15 |     close(fd);
    |     ~~~~~
del.c:16:17: warning: implicit declaration of function 'unlink' [-Wimplicit-function-declaration]
16 |     unlink(argv[1]);
    |     ~~~~~
dian@dian-VirtualBox:~$ ./del test1.txt
dian@dian-VirtualBox:~$ ls
copy  del.c  Documents  fappend  fcreate.c  fread.c  Music  Pictures  stat.c  Videos
copy.c  Desktop  Downloads  fappend.c  fork.c    list     mygrep  Public  Templates  wait.c
del    dirlist.c  exec.c    fcreate   fread     list.c   mygrep.c  snap    test.txt
dian@dian-VirtualBox:~$
```

*Screenshot dari terminal del.c*



```
1 #include <stdio.h>
2 #include <stdlib.h>
3 #include <fcntl.h>
4 main(int argc, char *argv[]){
5     int fd;
6     if (argc != 2)
7     {
8         printf("Usage; gcc del.c -o del\n");
9         printf("Usage; ./del <filename>\n");
10        exit(-1);
11    }
12    fd = open(argv[1], O_RDONLY);
13    if (fd != -1)
14    {
15        close(fd);
16        unlink(argv[1]);
17    } else
18        perror(argv[1]);
19 }
```

*Screenshot dari kode del.c*