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MODUL 10

A. Program untuk mensimulasikan perintah 'ls'

```
root@ubuntu:/home/ubuntu# nano list.c
root@ubuntu:/home/ubuntu# gcc list.c -o list
list.c: In function 'main':
list.c:7:2: warning: implicit declaration of function 'getcwd' [-Wimplicit-function-declaration]
  getcwd(pathname);
  ^
list.c:11:3: warning: implicit declaration of function 'printf' [-Wimplicit-function-declaration]
  printf("Error\n");
  ^
list.c:11:3: warning: incompatible implicit declaration of built-in function 'printf'
list.c:11:3: note: include '<stdio.h>' or provide a declaration of 'printf'
list.c:14:3: warning: incompatible implicit declaration of built-in function 'printf'
  printf("%-20s", namelist[i]->d_name);
  ^
list.c:14:3: note: include '<stdio.h>' or provide a declaration of 'printf'
root@ubuntu:/home/ubuntu# ./list
Error
root@ubuntu:/home/ubuntu#
```

```
root@ubuntu:/home/ubuntu
GNU nano 2.5.3 File: list.c

#include <stdlib.h>
#include <dirent.h>
int main(){
    struct dirent
    **namelist; int n, i;
    char pathname[100];
    getcwd(pathname);

    n = scandir(pathname, &namelist, 0, alphasort);
    if(n < 0)
        printf("Error\n");
    else
        for(i=0, i<n; i++;) if(namelist[i]->d_name[0] != '.')
            printf("%-20s", namelist[i]->d_name);
}

^G Get Help      ^O Write Out    ^W Where Is     ^K Cut Text     ^J Justify      ^C Cur Pos      ^Y Prev Page    M- First Line  M-W WhereIs Next
^X Exit          ^R Read File    ^_ Replace      ^U Uncut Text   ^T To Spell     ^_ Go To Line   ^V Next Page    M- Last Line   M-_ To Bracket
Read 15 lines
```

B. Program untuk mensimulasikan perintah 'grep'.

```
root@ubuntu:/home/ubuntu# nano copy.c
root@ubuntu:/home/ubuntu# nano mygrep.c
root@ubuntu:/home/ubuntu# gcc mygrep.c -o mygrep
root@ubuntu:/home/ubuntu# ./mygrep L200170109 test.txt
L200170109
root@ubuntu:/home/ubuntu#
```

Activate Windows
Go to Settings to activate Windows.

```
root@ubuntu:/home/ubuntu
GNU nano 2.5.3 File: mygrep.c

#include <stdio.h>
#include <string.h>
#include <stdlib.h>
int main(int argc, char *argv[]){
    FILE *fd;
    char str[100];
    char c;
    int i, flag, j, m, k;
    char temp[30];

    if (argc != 3){
        printf("Usage: gcc mygrep -o mygrep\n");
        printf("Usage: ./mygrep <search_text> <filename>\n");
        exit(-0);
    }
    fd = fopen(argv[2], "r");
    if(fd == NULL){
        printf("%s is not exist\n",argv[2]);
        exit(-0);
    }
    while(!feof(fd)){
        i = 0;
        while(1){
            c = fgetc(fd);
            if(feof(fd)){
                str[i++] = '\0'; break;
            }
            if(c == '\n'){
                str[i++] = '\0'; break;
            }
            str[i++] = c;
        }
        if(strlen(str) >= strlen(argv[1]))
        for(k=0; k<=strlen(str)-strlen(argv[1]); k++){
            for(m=0; m<strlen(argv[1]);m++){
                temp[m] = str[k+m];
                temp[m] = '\0';
                if(strcmp(temp, argv[1]) == 0){
                    break;
                }
            }
        }
    }
}
```

Get Help Write Out Where Is Cut Text Justify Cur Pos Prev Page First Line WhereIs Next
Exit Read File Replace Uncut Text To Spell Go To Line Next Page Last Line To Bracket

C. Program untuk mensimulasikan perintah 'cp'.



```
root@ubuntu: /home/ubuntu
GNU nano 2.5.3 File: copy.c Modified

#include <stdio.h>
#include <stdlib.h>
#include <fcntl.h>
#include <sys/stat.h>
#define SIZE 1024

int main(int argc, char *argv[]){
    int src, dst, nread;
    char buf[SIZE];
    if (argc != 3){
        printf("Usage: gcc copy.c -o copy\n");
        printf("Usage: ./copy <filename> <newfile> \n");
        exit(-1);
    }
    src = open (argv[1], O_RDONLY) == -1){
        perror(argv[1]);
        exit(-1);
    }
    if ((dst = creat(argv[2], 0644)) == -1){
        perror(argv[1]);
        exit(-1);
    }
    while ((nread = read(src, buf, SIZE)) > 0){
        if (write(dst, buf, nread) == -1){
            printf("can't write\n");
            exit(-1);
        }
    }
    close(src);
    close(dst);
}
```

File Name to Write: copy.c

^G Get Help M-D DOS Format M-A Append M-B Backup File
^C Cancel M-M Mac Format M-R Prepend M-T To Files



```
root@ubuntu:/home/ubuntu# nano copy.c
root@ubuntu:/home/ubuntu# gcc copy.c -o copy
copy.c: In function 'main':
copy.c:22:18: warning: implicit declaration of function 'read' [-Wimplicit-function-declaration]
    while ((nread = read(src, buf, SIZE)) > 0){
                   ^
copy.c:23:7: warning: implicit declaration of function 'write' [-Wimplicit-function-declaration]
    if (write(dst, buf, nread) == -1){
        ^
copy.c:28:2: warning: implicit declaration of function 'close' [-Wimplicit-function-declaration]
    close(src);
    ^

root@ubuntu:/home/ubuntu# ./copy test.txt baru.txt
root@ubuntu:/home/ubuntu# ls
baru.txt  copy  copy.c  Desktop  Documents  Downloads  list  list.c  Music  mygrep  mygrep.c  Pictures  Public  Templates  test.txt  Videos
```

Activate Windows
Go to Settings to activate Windows

D. Program untuk mensimulasikan perintah 'rm'.



```
root@ubuntu: /home/ubuntu
GNU nano 2.5.3                               File: del.c                               Modified

#include <stdio.h>
#include <stdlib.h>
#include <fcntl.h>
int main(int argc, char* argv[]){
    int fd;
    if (argc != 2){
        printf("Usage: gcc del.c -o del\n");
        printf("Usage: ./del <filename>\n");
        exit(-1);
    }
    fd = open(argv[1], O_RDONLY);
    if (fd != -1){
        close(fd);
        unlink(argv[1]);
    } else
        perror(argv[1]);
}

Save modified buffer (ANSWERING "No" WILL DESTROY CHANGES) ?
Y Yes
N No                                     Cancel
```



```
root@ubuntu:/home/ubuntu# nano del.c
root@ubuntu:/home/ubuntu# gcc del.c -o del
del.c: In function 'main':
del.c:13:3: warning: implicit declaration of function 'close' [-Wimplicit-function-declaration]
    close(fd);
    ^
del.c:14:3: warning: implicit declaration of function 'unlink' [-Wimplicit-function-declaration]
    unlink(argv[1]);
    ^
root@ubuntu:/home/ubuntu# ./del baru.txt
root@ubuntu:/home/ubuntu# ls
copy.c  del  del.c  Desktop  Documents  Downloads  list  list.c  Music  mygrep  mygrep.c  Pictures  Public  Templates  test.txt  Videos
```