PRAKTIKUM SISTEM OPERASI

MODUL 10

SIMULASI COMMAND (PERINTAH)

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A. Program untuk mensimulasi perintah ' ls '.

Kode Program list.c

```c
C list.c        ×    C mygrep.c      C copy.c      C del.c

home > farizhafidz > Documents > Modul_10 > C list.c
1    #include <stdio.h>
2    #include <dirent.h>
3    int 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   }
```

Terminal Compiler gcc

```
farizhafidz@farizhafidz-VirtualBox:~/Documents/Modul_10$ gcc list.c
list.c: In function 'main':
list.c:7:5: warning: implicit declaration of function 'getcwd'; did you mean 'getw'? [-Wimplicit-function-declaration]
    7 |     getcwd(pathname);
      |     ^~~~~~
      |     getw
farizhafidz@farizhafidz-VirtualBox:~/Documents/Modul_10$ ./a.out list.c
Screenshots       a.out            copy.c            del.c          list.c        mygrep.c         farizhafidz@farizhafid
z-VirtualBox:~/Documents/Modul_10$
```

B. Program untuk mensimulasi perintah ' grep '.

Kode Program mygrep.c

```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.c -o mygrep\n");
        printf("Usage: ./mygrep <search_text> <filename>\n");
        exit(-1);
    }

    fd = fopen (argv[2], "r");
    if (fd == NULL)
    {
        printf("%s is not exist\n", argv[2]);
        exit(-1);
    }

    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;
        }
```

```c
43          if (strlen(str) >= strlen (argv[1]))
44          for (k=0; k<=strlen(str)-strlen(argv[1]); k++)
45          {
46              for(m=0; m<strlen(argv[1]); m++)
47                  temp[m] = str[k+m];
48              temp[m] = '\0';
49              if (strcmp(temp, argv[1]) == 0)
50              {
51                  printf("%s\n", str);
52                  break;
53              }
54          }
55      }
56  }
```

Terminal Compiler gcc

```
farizhafidz@farizhafidz-VirtualBox:~/Documents/Modul_10$ gcc mygrep.c -o mygrep
farizhafidz@farizhafidz-VirtualBox:~/Documents/Modul_10$ ./mygrep David test.txt
test.txt is not exist
farizhafidz@farizhafidz-VirtualBox:~/Documents/Modul_10$ ./mygrep David test.txt
Halo Gaess kembali lagi bersama saya David di Channel Gadgetin
farizhafidz@farizhafidz-VirtualBox:~/Documents/Modul_10$ ./mygrep hafidz test.txt
farizhafidz@farizhafidz-VirtualBox:~/Documents/Modul_10$ ./mygrep lagi test.txt
Halo Gaess kembali lagi bersama saya David di Channel Gadgetin
```

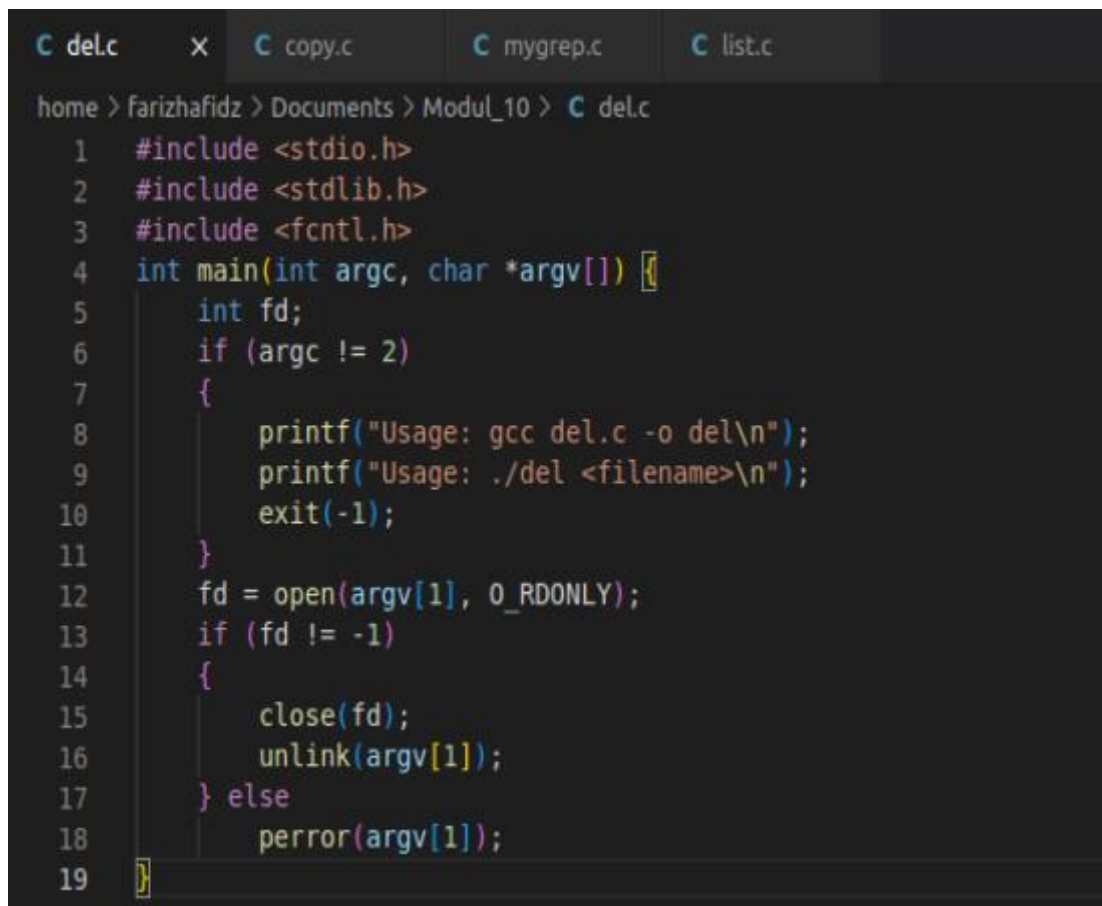## C. Program untuk mensimulasi perintah ' cp '.

Kode Program copy.c

```c
#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);
    }

    if ((src = open(argv[1], O_RDONLY)) == -1)
    {
        perror(argv[1]);
        exit(-1);
    }

    if ((dst = creat(argv[2], 0644)) == -1)
    {
        perror(argv[1]);
        exit(-1);
    }
```

```c

    while ((nread = read(src, buf, SIZE)) > 0)
    {
        if (write(dst, buf, nread) == -1)
        {
            printf("can't write\n");
            exit(-1);
        }
    }
    close (src);
    close (dst);
}
```

```
farizhafidz@farizhafidz-VirtualBox:~/Documents/Modul_10$ gcc copy.c -o copy
copy.c: In function 'main':
copy.c:28:21: warning: implicit declaration of function 'read'; did you mean 'fread'? [-Wimplicit-function-declaration]
   28 |     while ((nread = read(src, buf, SIZE)) > 0)
      |                     ^~~~
      |                     fread
copy.c:30:13: warning: implicit declaration of function 'write'; did you mean 'fwrite'? [-Wimplicit-function-declaration]
   30 |         if (write(dst, buf, nread) == -1)
      |             ^~~~~
      |             fwrite
copy.c:36:5: warning: implicit declaration of function 'close'; did you mean 'pclose'? [-Wimplicit-function-declaration]
   36 |     close (src);
      |     ^~~~~
      |     pclose
farizhafidz@farizhafidz-VirtualBox:~/Documents/Modul_10$ ./copy test.txt test2.txt
```

D. Program untuk mensimulasi perintah ' rm '.

Kode Program del.c

```c
#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]);
}
```

Terminal Compiler gcc

```
farizhafidz@farizhafidz-VirtualBox:~/Documents/Modul_10$ gcc del.c -o del
del.c: In function 'main':
del.c:15:9: warning: implicit declaration of function 'close'; did you mean 'pclose'? [-Wimplicit-function-declaration]
   15 |         close(fd);
      |         ^~~~~
      |         pclose
del.c:16:9: warning: implicit declaration of function 'unlink' [-Wimplicit-function-declaration]
   16 |         unlink(argv[1]);
      |         ^~~~~~
farizhafidz@farizhafidz-VirtualBox:~/Documents/Modul_10$ ./del test2.txt
farizhafidz@farizhafidz-VirtualBox:~/Documents/Modul_10$
```