LAPORAN PRAKTIKUM

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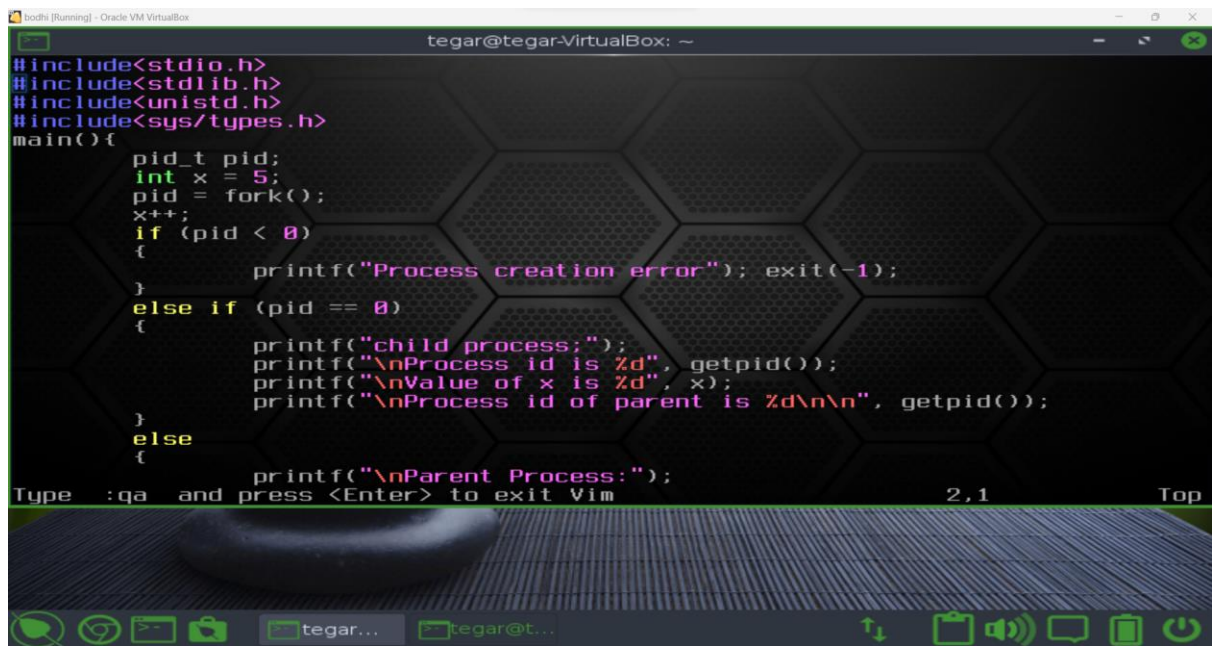
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TEKNIK INFORMATIKA

FAKULTAS KOMUNIKASI DAN INFORMATIKA

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1. Fork.c


```c
#include<stdio.h>
#include<stdlib.h>
#include<unistd.h>
#include<sys/types.h>
main(){
        pid_t pid;
        int x = 5;
        pid = fork();
        x++;
        if (pid < 0)
        {
                printf("Process creation error"); exit(-1);
        }
        else if (pid == 0)
        {
                printf("child process;");
                printf("\nProcess id is %d", getpid());
                printf("\nValue of x is %d", x);
                printf("\nProcess id of parent is %d\n\n", getpid());
        }
        else
        {
                printf("\nParent Process:");
```
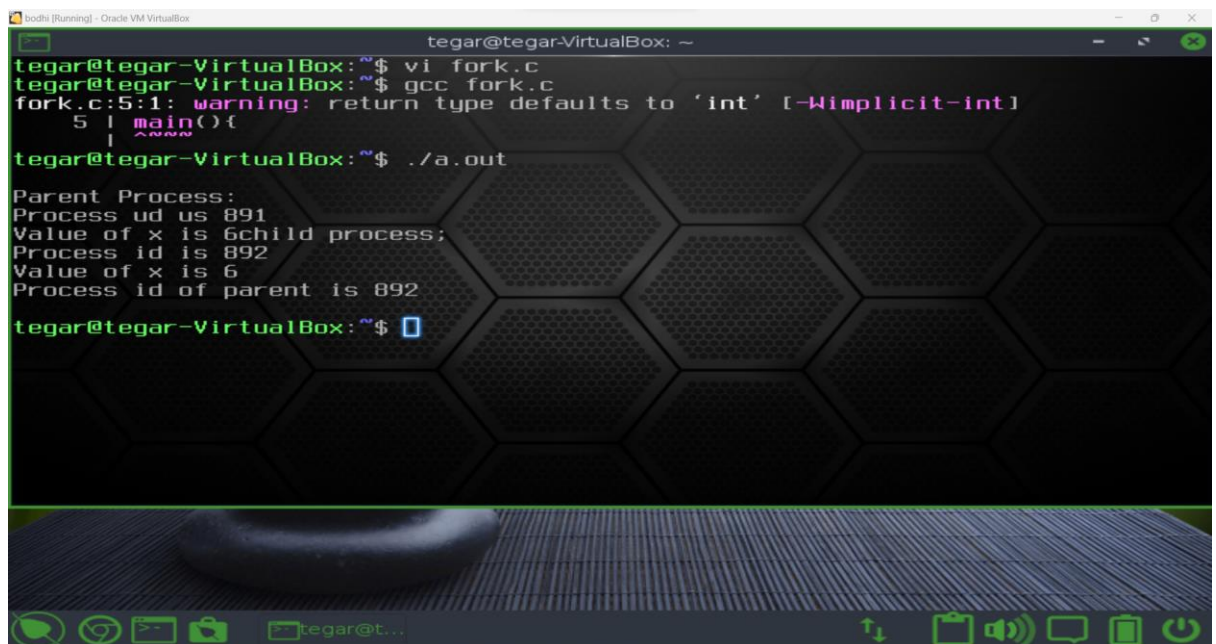
Type :qa and press <Enter> to exit Vim   2,1   Top


```
tegar@tegar-VirtualBox:~$ vi fork.c
tegar@tegar-VirtualBox:~$ gcc fork.c
fork.c:5:1: warning: return type defaults to 'int' [-Wimplicit-int]
    5 | main(){
      | ^~~~
tegar@tegar-VirtualBox:~$ ./a.out

Parent Process:
Process ud us 891
Value of x is 6child process;
Process id is 892
Value of x is 6
Process id of parent is 892

tegar@tegar-VirtualBox:~$
```

2. exec.c


```c
#include <stdio.h>
#include <sys/types.h>
#include <unistd.h>
#include <stdlib.h>
main(int argc, char*argv[]){

        pid_t pid;
        int i;

        if (argc != 3)
        {
                printf("\nInsufficient arguments to load program");
                printf("\nUnsage: ./a.out<path><cmd>\n"); exit(-1);
        }
        switch(pid = fork())
        {
        case -1:
                printf("Fork Failed");
                exit (-1);
        case -0:
                printf("Child process\n");
                i = execl(argv[1], argv[2], 0);
                if (i < 0)
                {
                        printf("%s program not loaded using exec system call\n,argc[2]");
                        exit(-1);
                }
```

```
        default:
                wait(NULL);
                printf("Child Terminated\n");
                exit(0);
        }
```



```
tegar@tegar-VirtualBox:~$ vi exec.c
tegar@tegar-VirtualBox:~$ gcc exec.c
exec.c:5:1: warning: return type defaults to 'int' [-Wimplicit-int]
    5 | main(int argc, char*argv[]){
      | ^~~~
exec.c: In function 'main':
exec.c:22:3: warning: missing sentinel in function call [-Wformat=]
   22 |    i = execl(argv[1], argv[2], 0);
      |    ^
exec.c:25:13: warning: format '%s' expects a matching 'char *' argument [-Wformat=]
   25 |       printf("%s program not loaded using exec system call\n,argc[2]");
      |              ~^
      |               |
      |               char *
exec.c:29:3: warning: implicit declaration of function 'wait' [-Wimplicit-function-declaration]
   29 |    wait(NULL);
      |    ^~~~
```

3. Stat.c

```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 : %d\s",ctime(&(file.st_atime)));
        printf("last modified : %d\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" : "-");
```

```
"stat.c" 53L, 1361C                                          14,17-31        Top
```

```c
        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" : "-");
        print("\n");
        if(file.st_mode & S_IFREG)
                printf("File type :regular\n");
        if(file.st_mode & S_IFDIR)
                printf("File type : Drirectory\n");
}
```

```
                                                             44,1-8          86%
```

```
tegar@tegar-VirtualBox:~$ vi stat.c
tegar@tegar-VirtualBox:~$ gcc stat.c
stat.c: In function 'main':
stat.c:19:24: warning: format '%d' expects argument of type 'int', but argument
 2 has type '__blksize_t' {aka 'long int'} [-Wformat=]
   19 |   printf("Block size : %d\n", file.st_blksize);
      |                         ~^              ~~~~~~~~~~~~~~~~
      |                          |                    |
      |                          int            __blksize_t {aka long int}
      |                         %ld
stat.c:20:30: warning: format '%d' expects argument of type 'int', but argument
 2 has type '__blkcnt_t' {aka 'long int'} [-Wformat=]
   20 |   printf("Blocks allocated : %d\n", file.st_blocks);
      |                               ~^            ~~~~~~~~~~~~~~~
      |                                |                  |
      |                                int          __blkcnt_t {aka long int}
      |                               %ld
stat.c:21:23: warning: format '%d' expects argument of type 'int', but argument
 2 has type '__ino_t' {aka 'long unsigned int'} [-Wformat=]
   21 |   printf("Inode no. : %d\n", file.st_ino);
      |                        ~^            ~~~~~~~~~~~
      |                         |                 |
      |                         int         __ino_t {aka long unsigned int}
      |                        %ld
stat.c:22:9: warning: unknown escape sequence: '\s'
   22 |   printf("last accessed : %d\s",ctime(&(file.st_atime)));
      |          ~~~~~~~~~~~~~~~~~~~~~~~
stat.c:22:27: warning: format '%d' expects argument of type 'int', but argument
```

```
                      |                            |
                      |    int            __blksize_t {aka long int}
                      |   %ld
stat.c:20:30: warning: format '%d' expects argument of type 'int', but argument
 2 has type '__blkcnt_t' {aka 'long int'} [-Wformat=]
   20 |    printf("Blocks allocated : %d\n", file.st_blocks);
                                      ~^                 ~~~~~~~~~~~~~~~
                      |               |                |
                      |              int            __blkcnt_t {aka long int}
                      |             %ld
stat.c:21:23: warning: format '%d' expects argument of type 'int', but argument
 2 has type '__ino_t' {aka 'long unsigned int'} [-Wformat=]
   21 |    printf("Inode no. : %d\n", file.st_ino);
                               ~^       ~~~~~~~~~~~~
                      |        |              |
                      |       int          __ino_t {aka long unsigned int}
                      |      %ld
stat.c:22:9: warning: unknown escape sequence: '\s'
   22 |    printf("last accessed : %d\s",ctime(&(file.st_atime)));
                   ^~~~~~~~~~~~~~~~~~~~~~
stat.c:22:27: warning: format '%d' expects argument of type 'int', but argument
 2 has type 'char *' [-Wformat=]
   22 |    printf("last accessed : %d\s",ctime(&(file.st_atime)));
                                   ~^     ~~~~~~~~~~~~~~~~~~~~~~~~
                      |            |     |
                      |           int   char *
                      |          %s
stat.c:23:9: warning: unknown escape sequence: '\s'
   23 |    printf("last modified : %d\s",ctime(&(file.st_mtime)));
```

```
   23 |    printf("last modified : %d\s",ctime(&(file.st_mtime)));
                   ^~~~~~~~~~~~~~~~~~~~~~
stat.c:23:27: warning: format '%d' expects argument of type 'int', but argument
 2 has type 'char *' [-Wformat=]
   23 |    printf("last modified : %d\s",ctime(&(file.st_mtime)));
                                   ~^     ~~~~~~~~~~~~~~~~~~~~~~~~
                      |            |     |
                      |           int   char *
                      |          %s
stat.c:24:23: warning: format '%d' expects argument of type 'int', but argument
 2 has type '__off_t' {aka 'long int'} [-Wformat=]
   24 |    printf("File size : %d bytes\n", file.st_size);
                               ~^              ~~~~~~~~~~~~~
                      |        |                      |
                      |       int                  __off_t {aka long int}
                      |      %ld
stat.c:25:27: warning: format '%d' expects argument of type 'int', but argument
 2 has type '__nlink_t' {aka 'long unsigned int'} [-Wformat=]
   25 |    printf("No. of links : %d\n", file.st_nlink);
                                  ~^       ~~~~~~~~~~~~~~
                      |           |              |
                      |          int         __nlink_t {aka long unsigned int}
                      |         %ld
stat.c:37:2: warning: implicit declaration of function 'print'; did you mean 'p
rintf'? [-Wimplicit-function-declaration]
   37 |    print("\n");
           ^~~~~
           |
           printf
/usr/bin/ld: /tmp/ccW7mFOu.o: in function `main':
stat.c:(.text+0x35f): undefined reference to `print'
collect2: error: ld returned 1 exit status
```

4. Dirlist.c


```c
#include <stdio.h>
#include <dirent.h>
#include <stdlib.h>
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);
}
~
~
~
~
~
~
~
"dirlist.c" 22L, 356C                                    1,1            All
```



```
tegar@tegar-VirtualBox:~$ vi dirlist.c
tegar@tegar-VirtualBox:~$ gcc dirlist.c
dirlist.c:4:1: warning: return type defaults to 'int' [-Wimplicit-int]
    4 | main(int argc, char *argv[]){
      | ^~~~
tegar@tegar-VirtualBox:~$ ./a.out Music
.
..
tegar@tegar-VirtualBox:~$
```