

MIT WORLD PEACE UNIVERSITY

Operating Systems  
Second Year B. Tech, Semester 3

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COPY UTILITY USING C

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ASSIGNMENT 9  
PRACTICAL REPORT

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Batch A1, PA 20  
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# 1 Code

```
1 // copy utility
2 #include <fcntl.h>
3 #include <stdio.h>
4 #include <stdlib.h>
5 #include <unistd.h>
6 char buffer[2048]; // the uninitialized data is the array buffer.
7 int version = 1;
8 void copy(int fdold, int fdnew)
9 {
10     int count;
11     while (read(fdold, buffer, sizeof(buffer)))
12     {
13         printf("%s", buffer);
14         write(fdnew, buffer, sizeof(buffer));
15     }
16     close(fdold);
17     close(fdnew);
18 }
19 void main(int argc, char *argv[])
20 {
21     int fdold, fdnew;
22     if (argc != 3)
23     {
24         printf("need 2 arguments for copy program:\n");
25         exit(1);
26     }
27     fdold = open(argv[1], O_RDONLY);
28     if (fdold == -1)
29     {
30         printf("We cant open the file");
31         exit(1);
32     }
33     fdnew = creat(argv[2], 0666);
34     if (fdnew == -1)
35     {
36         printf("We cant open the file");
37         exit(1);
38     }
39     // read(fdold, buffer, sizeof(buffer));
40     // printf("%c", buffer);
41     copy(fdold, fdnew);
42     close(fdold);
43     close(fdnew);
44 }
```

Listing 1: Assignment 9

# 2 Input and Output

```
1 MIT
2 WPU
3 PUNE
```

Listing 2: Input File

```
1 MIT
```

2 WPU  
3 PUNE

### Listing 3: Output File

30/11/22

Lab - Assignment - 7

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## F.A.R'S

Q.1 How does copy command work? Explain various supported options..

→ cp - copies files and directories.

cp [OPTIONS] ... SOURCE ... DIRECTORY\_DEST

it copies files or folders at source to destination directory, or multiple sources to destination directory.

### Some options

①

cp --attributes-only      •      ..  
would only copy attributes and not the data.

② cp -f , --force

If the existing destination file can't be opened, remove it and try again.

③ cp -r , --recursive.

copy directories recursively,

Q.2 Explain Working of system calls -  
read, write, open, close

→ read →

`read (int fd, void * buf, size_t count);`

From the file indicated by file descriptor  
fd, read count bytes of input into  
memory area indicated by buf.

→ `write (int fd, void * buf, size_t count);`

write cnt bytes from buf to file or socket  
associated with fd.

→ `open (const char * path, int flags [, int mode]);`

→ used to open a file for reading or  
writing or both depending on given flags..

→ `close (int fd)` : Tells the operating system  
that you are done with the file pointed  
by fd; ask and to close it.

Q.3 explain cp -p .

→ `cp -p . ..` or `cp --preserve = [Attr list]`  
preserves the specified attributes (default : mode,  
ownership, timestamp), and if possible additional attributes  
like context ~~list~~ links, xattr, all.