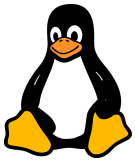

Operating System

Lab#04

I/O Redirection

Task 01: Perform the following tasks:

a) Write a single command to copy the contents of **`/etc/passwd`** into **`out.txt`** without using **`cp`** command. (Hint: I/O Redirection)
b) Find all the files named `*libc.so*` in your root directory (using `find` command) and redirect the output to `libc_locations.txt`, and errors to `/dev/null`.

Task 02: Perform the following tasks:

a) Write a single command to add **"Hi, I am <Your Name>"** into `myself.txt`. (Hint: Use `echo` command)
b) Append **"My Roll No is : <Your Roll No.>"** using IO redirection.

Task 03:

```c
#include<stdio.h>
#include<unistd.h>
#include<fcntl.h>

int main(void) {
        int fd = open("/tmp/fake", O_RDONLY);
        perror("ARM: Can't open file");
        printf("Ever wanted to be a Hacker?\n");
        printf("If Yes, Work hard and learn how OS throws errors to other files.\n");
        return 0;
}
```

Save the above given source code as **hacking.c**. Compile and make executable of the **hacking.c** and

perform I/O redirection operations as described below:

a) Redirect the output to a file named `work_hard.txt`.
b) Redirect the error to a file named `failed.txt`**.**
c) Redirect the stdout and stderr to a file called `screen_copy.txt` using **copy descriptor**.

Pipes/Fifos

a) Write a single command to display all the lines containing **`kali`** in **`/etc/passwd`** counts the number of lines in the output.
b) Write a single command to count the occurrences of word **`root`** in **`/etc/passwd`.**
c) Draw PPFDT of each process that was created in the above questions.

Task 03: Write a single command which will copy the source code **hacking.c** (I/O Redirection: Task 03) on **stdout** and in the following files: **advice1.c, advice2.c, advice3.c.**
(Hint: use `tee` command)

Task 04: Create a fifo called `transporter`**.** Open two shells and display the contents of the **advice1.c (**created in the above task) on both shells.
(Hint: Use tee command to save data in `transporter` and on second shell use any command to read `transporter`)