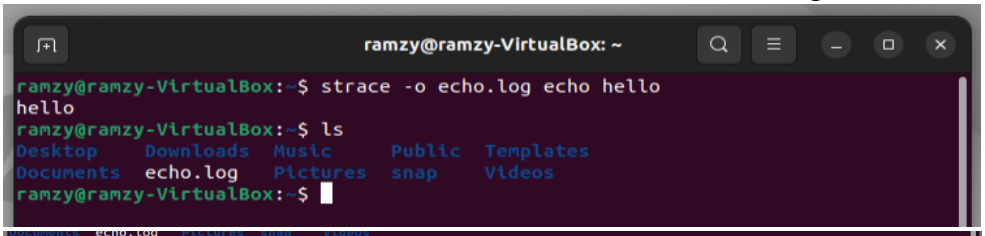
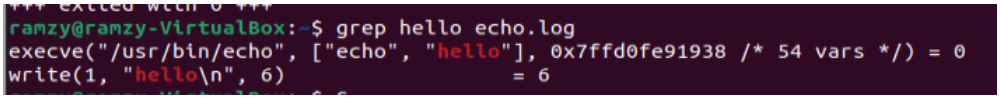
Name : Ramzy Izza Wardhana
NIM : 21/472698/PA/20322
Class : IUP CS B – Lab OS & CN

Activity 3.2 – LAB OS

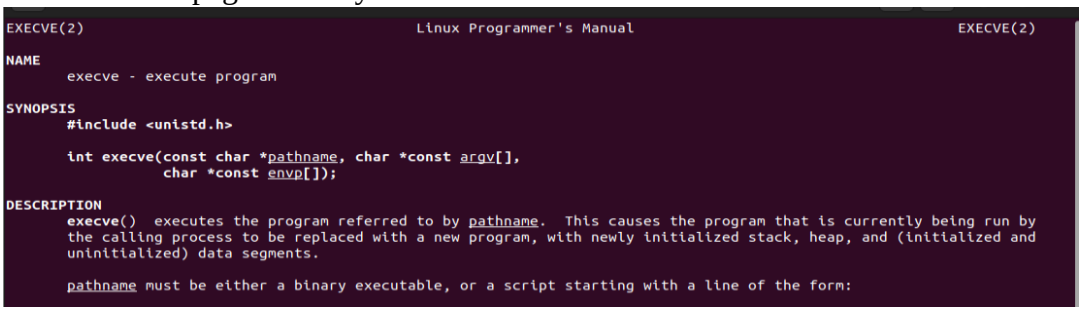
1. Save the trace of a command echo hello to a file titled “echo.log”



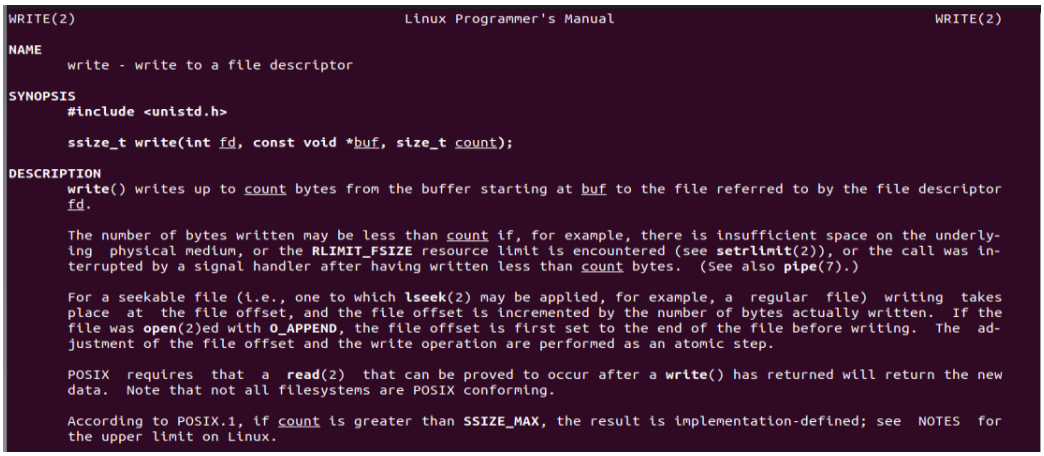
2. Filter the “echo.log” file to find the text “hello” being mentioned. Screen capture the result



3. Explain what the system call that related to the text in question number 2 is doing based on the manual page of the system call.



execve("/usr/bin/echo", ["echo", "hello"], 0x7fffa73ecc88 /* 23 vars */) = 0
The system call “execve” is a abbreviation of execute program that corresponds to the pathname. Inside the parentheses execve will run the program through the **/usr/bin/echo** directory path and with additional parameter “hello” denoted as the content that we want to filter.



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WRITE(2)                                Linux Programmer's Manual                                WRITE(2)

NAME
       write - write to a file descriptor

SYNOPSIS
       #include <unistd.h>

       ssize_t write(int fd, const void *buf, size_t count);

DESCRIPTION
       write() writes up to count bytes from the buffer starting at buf to the file referred to by the file descriptor
       fd.

       The number of bytes written may be less than count if, for example, there is insufficient space on the underly-
       ing  physical medium, or the RLIMIT_FSIZE resource limit is encountered (see setrlimit(2)), or the call was in-
       terrupted by a signal handler after having written less than count bytes.  (See also pipe(7).)

       For a seekable file (i.e., one to which lseek(2) may be applied, for example, a  regular  file)  writing  takes
       place  at  the file offset, and the file offset is incremented by the number of bytes actually written.  If the
       file was open(2)ed with O_APPEND, the file offset is first set to the end of the file before writing.  The  ad-
       justment of the file offset and the write operation are performed as an atomic step.

       POSIX  requires  that  a  read(2)  that can be proved to occur after a write() has returned will return the new
       data.  Note that not all filesystems are POSIX conforming.

       According to POSIX.1, if count is greater than SSIZE_MAX, the result is implementation-defined; see  NOTES  for
       the upper limit on Linux.
```

write(1, “hello\n”, 6)

write() system call has the function to write data to the file descriptor with respect to count of bytes buffer starting from buf to the file referred by fd. Write() has accepts 3 parameters namely fd, buf, and count. Fd is the file descriptor, buf is the placeholder of the data, and count is the bytes that needs to be write. This system calls will further explain by the output given above from *man 2 write.*