

Write a C program **lab2.c** to do the following:

(Note: All the following operations have to be performed **within the single lab2.c program**)

- Using the `open()` system call , create a new file **sample.txt** in the PWD with permission 0777
 - You need to use the `umask()` system call before you use the `open()` system call.
 - You need to ensure `sample.txt` is not present in your PWD before you run this program
- Write “Welcome to COMP 8567” into the file `sample.txt`
 - close the file using `close()`
- Continue the same program and open `sample.txt` in the `O_APPEND` mode and Write “Advanced Systems Programming” into the file (`append_mode`)
 - Close the file using `close()`
- Open `sample.txt` in the `O_RDWR` mode
 - Write “*****” into `sample.txt` at the following positions
 - 5 bytes from the beginning of the file
 - 4 bytes after the previous operation is performed
 - 10 bytes after the end of the file
 - Replace all the NULL characters in the file with the ‘@’ character
 - close `sample.txt`
- open `sample.txt` in the read only mode and perform the following operations:
 - Print the contents of the file 10 bytes at a time (line by line)
 - Print the size of the file into the standard output
- Close `sample.txt`

//End of the program lab2.c

Submission:

- Upload two files: `lab2.c` and `sample.txt` (final contents)