

I) Develop an application (using C & Command Line Arguments) for:

i) Simulate the behavior of **cp command in linux**. (you should not invoke cp command from your C source!). Also your **application should validate** right usage; if less or more number of arguments are passed to the executable the **program should prompt a message** to the user. File read and write function calls are allowed. Rename your executable as mycopy.

Example usage cud be **./mcyopy fact.c factcopy.c**

ii) **Extra Credits Qn** – Extend the above application / develop an application to simulate the behavior of **rm command in linux**. rm command invoke from Source is not allowed! Other features as in earlier application to be supported.

II) Develop an application (using C & Command Line Arguments) for:

i) Sort an array of varying number of integers in ascending or descending order.

The array and array size are passed at command line. Invoke of linux command sort is not allowed. Use of atoi or itoa fns is allowed (need you should read online resources!). Let your program handle invalid usages as well!

Eg. `./mysort 5 1 50 40 30 20 1` here 5 is array size and 1 means ascending order sort and the rest of the input is the array to be sorted. Your code should handle descending order sort as well.

Extra Credits Qn: (I wud advise everbody to try!)

Can you implement the above sorting (both ascending or descending) using only function internally for sorting logic (I mean bubble or insertion etc..)You should define the logic in your source code only once but the application should be able to handle both ascending or descending order sort!). **Hint use function pointers!**

III) Develop an application (using function overloading & command line arguments in C) for:

a) Sorting an array of integers or floating point or characters passed at command line. Usage syntax you can follow a similar style as for the II question and also support validation logic in the code.

Read on function overloading – more than one function can carry the same name with different parameters!

IV) Develop an application (using function templates & command line arguments in C) for:

Same as above but you should define sort function only once internally and leave it to the compiler to generate data type specific functions. Clue is to use function templates feature in C. Read on it more!