

# C-Programming

50 programs

General

1. Find max/min in a given array
2. Print Pascal triangle
3. Write a program to do matrix transpose (2d matrix)
4. Print prime factors of a given number
5. Write sorting algorithm
6. LCM, GCD of 'n' numbers (say 5 numbers)

Strings:

7. Reverse a string
8. Find length of a given string
9. Highest frequency of a character in a given string

Bit level operation

10. Reverse bits in a given integer
11. Set/reset bits of a given integer (particular bit positions)
12. Flip bits of a given integer
13. Write a function to return whether n-th bit from right-to-left is set in an integer.  
`bool is_nth_bit_set_from_left(int number, int n_th_bit);`

Memory

14. How much memory is allocated for a given integer array? Verify in the program

Generic

15. Write a function to find endianness (big-endian or little-endian) of CPU.  
`bool is_little_endian();`
16. Write a program to merge two arrays, use pointers
17. Insert node in a given linked list.
18. Write a function to convert string to integer, equivalent of `atoi()`.  
`int my_atoi(char *str);`
19. Write a function to convert string (which is in hex or octal or decimal base) to integer.  
`int my_atoi(char *str, int base);`
20. Write a function to find Mth-to-last node of a singly linked list.  
`struct node * find_mth_node_from_last(struct node *root, int n);`
21. Write a function to delete n-th node from reverse of a singly linked list.  
`struct node * delete_nth_node(struct node *root, int n);`
22. Write a function to suppress a given character in the provided string.  
`char * suppress_in_string(char *str, char c);`
23. How to remove the multiple occurrence of numbers in a list?
24. Implement stack C
25. Implement queue in C
26. How much stack is consumed in a given function
27. Write histogram of a given image (image is stored in a file)
28. Write FFT program (fast Fourier transform) on a speech file and show the spectrogram

29. File IO: Two files are on disk. One file has integers and the other has words/text. Write a program to merge the two files into a single file.
30. Process bunch of inputs arguments and print them

## CPP-Programming