In The Name Of God

(Problem Set - 2 )

1 - Write a program to print a histogram of the lengths of words in its input. (horizontally and vertically)

2 - Write a program to print a histogram of the frequencies of different characters in its input.

3 - Write a program to print all input lines that are longer than 80 characters.

4 - Write a program to remove trailing blanks and tabs from each line of input, and to delete entirely blank lines.

5 - Write a program entab that replaces strings of blanks by the minimum number of tabs and blanks to achieve the same spacing.

6 - Write a program to remove all comments from a C program. Don't forget to handle quoted strings and character constants properly. (C comments don't nest.)

7 - There is a library called “ string.h “. there are multiple useful functions available in this library . search these wanted functions and try to code them by yourselves .

1. strcmp()
2. strlen()
3. strcat()
4. strCpy()
5. strchr()
6. strstr()

8 - write a program that gets an input ( character or integer ) and checks if the input is palindrome or not .

9 - write a program that gets an input of integers and saves them into an array . the program should show the user a menu and be able to sort the array by two algorithms :

1 - **selection sort**

2 - **bubble sort**

Ex :

// Show The Menu

Please Make Your Decision :

1 - Get Input

2 - Use Selection Sort

3 - Use Bubble Sort

4 - Exit

>> input : 1

>>Enter Your Numbers :

>>1 , 12 , 14 , 18 , 0 , 5 , 22 , 21

>> // Show the menu Again

>> 2

>> 0 , 1 , 5 , 12 , 14 , 18 , 21 , 22

>> // Show the menu Again

>>4

>> Have Fun ;D

This program should be coded 100% functional . all parts and sub problems of this program should be coded in separated functions .

10 - What is the output of this code ?

void main(){

int i = 0 ;

while ( i < 5 ) {

printf(“ %d “ , 10\*(i++) + ( ++i) ) ;

}

}

Answer : 2 , 24 , 46

11 - write a program that gets an integer input in binary form and then prints out the decimal equivalent .

( and vice versa )

( Be advised , you should write the power function by yourselves. You can also find power function in math.h library but in this problem set it’s Up To You to write it . )

12 - write a program to get an integer input and saves all of it’s divisors into an array and finally prints the array . ( it’s up to you to search about divisors if you don’t know what they are )

13 - What is the output of the following program?

**#include<stdio.h>  
  
void swap(int m, int n)  
{  
 int x = m;  
   
 m = n;  
 n = x;  
}  
main()  
{  
 int x=5, y=3;  
  
 swap(x,y);  
 printf("%d %d", x, y);  
}**

14 - There are two functions called **my\_gets()** and **my\_puts()**.

Assume that these two functions have the following prototype.

*my\_gets(char in[] )*

// this function gets a string as input and saves it into a character array called in.

---------------------------------------------------------------------------

*my\_puts(char out[] )*

// this function gets a character array “out” as input and prints the string .

----------------------------------------------------------------------------

Ex :

**int main () {**

**char str1[20] = “ Enter Input : “;**

**char str2[20] ;**

**puts(str1);**

**gets(str2);**

**puts(str2);  
   
 return(0);  
}**

**//Continues on next page**

**// Output >> Enter Input :**

**>> Hello world**

**>> Hello world**