E01

Counting number of 1's using C program (First convert decimal number to binary and count number of 1’s)

Test Case:
Enter number: 10
Number of 1’s are: 2

E02

Write a C program to read an 8-bit binary number as a string, then print the bits between given positions using C program.

Test Case:
Enter the BYTE: 11001100
Enter the positions p1 and p2: 2 7
Bits between positions 2 and 7 are: 0 0 1 1 0 0

E03

Write a C program to calculate the sum of array elements using pointers as an argument.

E04

Write a C program to find the first repeated element in an array.

E05

A) Write a C program to print alternate elements of the array
B) Write a C program to print addition of alternate elements of the array.

E06

Write a C program to print Fibonacci series up to n terms.

Test Cases: No. of terms 10

Output: 0,1,1,2,3,5,8,13,21,34

E07

Write a C program to find the missing number in the array. (Take sequential array and find the missing number)

E08

Write a C program to find the sum of Natural Number/Factorial of Number of all natural numbers from 1 to N.

Series: 1/1! + 2/2! + 3/3! + 4/4! + ... N/N!

E09

Write a C program to copy vowels of one string to another and count copied characters.

E10

Write a C program to split an array and add the first half after the second half of the array.

Test Case: input array:

int arr[10] = { 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 };

Enter the position of the item to split the array: 3

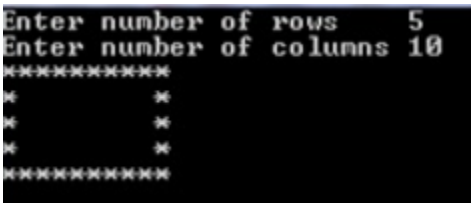
Result is: 3 4 5 6 7 8 9 0 1 2

E11

Write a C program to find the intersection of two arrays.

E12

Write a C program for 'Hollow Rectangle' Pattern.



E13

Find the sum of two one-dimensional arrays using Dynamic Memory Allocation and functions. Array should be passed as a function argument and in function should perform addition of passed arrays.

E14

Create a structure named Date having day, month and year as its elements.
Store the current date in the structure. Now add 45 days to the current date and display the final date.

Test Cases:

Input : dd mm yy (e.g 6 /3/23)
Output: dd/mm/yy (20/4/23)

E15

1.Write a C program to create a new array from a given array with the elements divisible by a specific number.

E16

Write a C program to count the number of Vowels and Consonants.

Test Cases: String: C is a programming language.

Vowels: 9 Consonants: 14

E17

Perform following operations on 2D Matrix:

1. Accept number of rows and columns of two matrices and read elements of both matrices.
2. Print Transpose of both matrices.
3. Print Diagonal elements of both matrices.

E18

Write a C program to delete prime numbers from an array.

E19

Write C program to read n strings and print each string's length.

E20

Write a C program to calculate sum of the series 1 + 11 + 111 + 1111 + ... N terms.

Test Case: Enter total number of terms: 5
1 + 11 + 111 + 1111 + 11111
SUM of the series is: 12345

E21

Write a program to convert decimal to binary number.

Test Cases:

Input : 5

Output: 101

E22

Given a string s, perform following operations on a string using function (Without pointer):

1. Find a length of a string.
2. Print string in reverse order.
3. Copy string s into s1 and print it.
4. Accept another string, say s2. Concatenate s and s2 and print concatenated string.

E23

1. Write a C program to insert a given number in the array at given position.
2. Write a C program to remove a number in the array from a given position.

E24

Write a C program for swapping of two string.

E25

Write a C program to two accept two matrices from user and check if both matrices are equal or not. If not equal, then print addition of both matrices.

E26

Write a c program for swapping of two arrays using function and check if both arrays are equal or not. Limits and numbers of both arrays must be accepted from user at run time.

E27

Write a C Program to count number of characters in the file and print every character on new line on screen.

E28

Accept number of rows and columns and read elements of matrix.

1. Print matrix in row major format.
2. Print matrix in column major format.

Test Case 1:

Number of rows:2
Number of columns: 3
Matrix Elements: 1 2 3 4 5 6

Row Major:

1 2 3
4 5 6

Column Major

1 3 5
2 4 6

E29

Accept limit of array from user. As per the limit, read integer elements in array. Then print :

1. Minimum, Maximum number from array.
2. Search for a particular number from array.

E30

An Electricity board charges the following rates for the use of electricity: for the first 200 units 80 paise per unit: for the next 100 units 90 paise per unit: beyond 300 units Rs 1 per unit. All users are charged to a minimum of Rs. 100 as meter charge. If the total amount is more than Rs 400, then an additional surcharge of 15% of total amount is charged. Write a C program to read the name of the user, number of units consumed and print out the charges.

Test Case:
enter the name of consumer: Chetan
enter the number of units consumed:300
Output should be :
consumer name=Chetan
units consumed =300
bill amount=350.00 rupees

E31

Write a C program to create a student database using file.
Perform following operations:

1. Open file
2. Write five records in file.
3. Read all five records from file.
4. Search for a particular student from file and print his/her details.

E32

You are given a string s and an integer array index of the same length. The string s will be shuffled such that the character at the i^{th} position moves to indices[i] in the shuffled string. Return *the shuffled string*.

Test Cases:
Input: s = "codeleet", indices = [4,5,6,7,0,2,1,3]
Output: "leetcode"
Explanation: As shown, "codeleet" becomes "leetcode" after shuffling.
Input: s = "abc", indices = [0,1,2]
Output: "abc"
Explanation: After shuffling, each character remains in its position.

E33

Write a C program to reverse an array using pointers.

E34

Given a string s containing just the characters like: '(', ')', '{', '}', '[' and ']', determine if the input string is valid.
An input string is valid if number of opening and closing brackets is same (irrespective of the sequence of opening and closing brackets)

Test Case 1:
Sample Input: ( )
Sample Output: Valid
Test Case 2:
Sample Input: ( )[ ]{ }
Sample Output: Valid

Test Case 3:
Sample Input: ([{ }
Sample Output: Invalid

E35

1. Write a Program to print the output like:

```
A
A B
A B C
A B C D
A B C D E
A B C D
A B C
A B
A
```

2. Write a program to print factorial of 1 to 10 numbers.

E36

Write a C program to find Factors of a Number.

E37

Write a C program to detect Armstrong Numbers. (Armstrong Numbers is a number An Armstrong number for a given number of digits is a number that is the sum of its own digits each raised to the power of the number of digits.

For instance, 153 is an Armstrong number because:

13+53+33=1+125+27=153)

E38

Write a C program to copy more than one Files into a single file. (Files from which contents are to be copied should be small files of 2-3 sentences.)

E39

Write a function to print all perfect numbers in a given interval in C programming.

Test Cases:1) Enter lower limit to print perfect numbers:1
Enter Upper limit to print perfect numbers:10000
All perfect numbers between 1 to 10000 are:
6,28,496,8128
2) Enter lower limit to print perfect numbers: 23
Enter upper limit to print perfect numbers: 450
All perfect numbers between 23 to 450 are:
28
3) Enter lower limit to print perfect numbers: 15
Enter upper limit to print perfect numbers: 70
All perfect numbers between 15 to 70 are: 28

E40

Write a C program to add two distances using structures by defining a structure to represent a distance (which could include feet and inches, for example) and then create functions to input, add, and display distances.

E41

Write a C program to Add first and last digit of a Number.

E42

Write a C Program to read and print name and other details like mobile number, marks of 5 subjects of n number of students using Structure. Print data of top 5 students (top 5 should be calculated based on the entered marks)

E43

Write a C program to copy one file contents to another file using character by character. Consider a small source file of 4-5 lines only.

E44

Write a c program to Delete all occurrences of Character from the String.

Test case: Computer_engineering
Enter character to delete: e
Output: Computr nginring

E45

Write a c program to insert a sub-string in to given main string.

Enter First String: Life is beautiful
Enter Second String: very
Enter the position to insert second string in first: 9
Output: Life is very beautiful

E46

Perform following operations on 2D Matrix:

1. Accept number of rows and columns of two matrices and read elements of both matrices.
2. Print Transpose of both matrices.
3. Print Addition of two matrices.

E47

Write a C program to print given number (not string) in reverse order.

E48

Write a C program to store student data(roll no, name, marks of 5 subjects) in structure. Then calculate the grade of a student using a logical operator.

(76-99 Distinction
60-75 First Class
50-59 Second Class
40-49 Pass Class
Below 40 Fail)

E49

Write a c program for swapping of two arrays using call by value function.

E50

1. Write a C program to print a given string in upper case using C
2. Write a C program to Reverse a string using pointers

E51

Write a C Program to find the Maximum and minimum element of array and print addition of remaining elements (Don’t consider min and max number in addition)

E52

Given a string, S , consisting of alphabets and digits, find the number of alphabets and digits in the given string.

Test Case 1:

Sample Input: a11472o5t6

Number of digits: 7

Number of alphabets:3

E53

1.Write a Program to print the output like:

1

1 2

1 2 3

1 2 3 4 5

E D C B A

E D C B

E D C

E D

E

2.Write a program to print prime numbers between two numbers given by user.

E54

Implement structures to read, write, and compute average marks and the students scoring above and below the average marks for a class of N students

Test Case:
Enter the number of students: 2
Enter the student details:
Name:Chetan
Percentage:99

Name:Nikhil
Percentage:89

Output will be:
Name: Chetan
Marks:99
Chetan is above average

Name: Nikhil
Marks:89
Nikhil is below the average

E55

Write a C program to perform following string operations using pointer, without built in function:

1. String Copy
2. String Reverse
3. String concatenation

E56

Write a C program to find the frequency of each character in a string.

Test Cases: String: This book is very good

Frequency of T:1

Frequency of h:0

Frequency of o:4 and so on for every distinct character.

E57

1. Write a C program to evaluate a^b using function.
2. Write a C program to find out the maximum number in an array using function.

E58

Given a string s, perform following operations on a string using function (With pointer):

1. Find a length of a string.
2. Print string in reverse order.
3. Copy string s into s1 and print it.

E59

Write a C program to count the number of digits in an integer. Then print addition of all digits in the given number.

Test Cases:

1) input: 671041
   output:
   Number of digits:6
   Addition of digits:19

E60

Write a structure to store the roll no., name, age (between 11 to 14) and address of students (5 students). Store the information of the students.

1 - Write a function to print the names of all the students having age 14.
2 - Write a function to print the names of all the students having even roll no.
3 - Write a function to display the details of the student whose roll no is given (i.e. roll no. entered by the user).

E61

Given a string s, return true if it a Palindrome or false otherwise.

Test Cases:
Case 1:
Input: MADAM
Output: true
Case 2:
Input: CAR
Output: false

E62

Write a structure to store the names, salary, and hours of work per day of 10 employees in a company. Write a program to increase the salary depending on the number of hours of work per day as follows and then print the name of all the employees along with their final salaries. Assume:

Hours of work per day	8	10	>=12
Increase in salary	₹4000	₹8000	₹12000

Test Cases: Input
A 40000 8
B 10000 10
C 60000 14
Output:
A 44000 8
B 18000 10
C 72000 12

E63

Write a C program to read the first line from a file.

Test Cases: Suppose the program.txt file contains the following text in the current directory.
Java is Object Oriented Programming.
How are you?
Welcome to VIT
Output: Java is Object Oriented Programming.

E64

Write a C program to find HCF and LCM of two numbers given by user.

E65

Write a C program to accept two matrices and check if they are equal or not. Order of both matrices must be accepted from user at run time.