

C training question bank

Input-Output based

1. Write a code to print Hello Global.
2. Write a code to take integer input from the user and print it on the console.
3. Write a code to take char input from the user and print it on the console.
4. Write a code to take float input from the user and print it on the console.
5. Write a code to take double input from the user and print it on the console.
6. Write a code to take float input from the user and print it on the console.
7. Write a C code to use **getchar** function to take character input and **putchar** function to print it to the console.
8. Write a program using all the format specifiers used in C.
9. Write codes to print escape sequences.
10. Write a program to take input of 3 space separated integers using **scanf**.
11. Write a program using sizeof operator to find the size of all the data types.
12. Write a program to find the ASCII value of a character.
13. Analysis The Output Of Following Printf and Try To Solve Them Manually
 - A . printf("AB\bbqw\ber\bsF");
 - B. printf("AB\bbq\bqw\ber\b\bsF\b\ber");
 - C. printf("DBS\rTUVY\rFG\rH");
 - D. printf("DBS\rTU\bVY\bFGIK\rH");
 - E. printf("asd\bbusb\rrjsnk\bkklds\rnd\bdfs");
 - F. printf("%9d\n",235);
 - G. printf("%-7ddvr%5d",264,32);
 - H. printf("%-9dd%-4dvr%5d",26,32,736);
 - I. printf("\n%-7.2ff",32.364);
 - J. printf("\n%-9.3ff%6.2f",32.364,2.7);
 - K. printf("%*d%*d",5,7,8,4);

Variables, Data Types, Operator

1. Write a program to implement Arithmetic operators.
2. Write a program to check divisibility of any Number.
3. Write a program to print the first and last digit of a Number.
4. Write a program to implement Relational operator
5. Write a program to implement Logical operator.
6. Write a program to implement conditional operators.
7. Write a program to add two numbers.
8. Write a program to multiply two floating point numbers.

9. Write a program to find Square of any numbers.
10. Write a program to find the size of int, float, double and char.,long double
11. Write a program to swap two numbers with three variables.
12. Write a program to swap two numbers without using third variables.
13. Write a program to find Simple interest.
14. Write a program to print profit or loss.
15. Write a program to calculate average and percentage of user defined numbers
16. WAP to perform addition subtraction multiplication and division using different format specifiers

Conditional Statements(Attempt All Questions Using IF/Switch/Ternary Operator)

1. Program to Check Whether a Character is a Vowel or Consonant
2. Program to Check Whether a Number is Even or Odd
3. Program to Find the Largest Number Among Three Numbers
4. Program to Find the Roots of a Quadratic Equation
5. Program to Check Leap Year
6. Program to Check Whether a Number is Positive or Negative
7. Program to Check Whether a Character is an Alphabet or not
8. Program to convert fahrenheit to celsius and vice versa
9. Check whether a character is an alphabet and also check whether a character is vowel or consonant
10. Program to find the largest number among three numbers using nested if-else
11. Greater number between two numbers
12. Greater number between three numbers using ternary operator.
13. Wap to check if the number is even or odd by without using the modulus operator.
15. Wap to print profit and Loss percentage.
16. A simple calculator program that can perform basic arithmetic operations (+, -, *, /) based on user input using switch case.
17. A program that takes the input of a month number (1-12) and displays the name of the month using a switch case statement.
18. A program that takes the input of a day number (1-7) and displays the corresponding day of the week using a switch case statement.
19. A program that takes the input of a letter and determines if it is a vowel or a consonant using a switch case statement.
20. A program that takes the input of a grade (A, B, C, D, F) and displays a message based on the grade using a switch case statement.
21. A program that takes the input of a color (red, green, blue) and displays the

- corresponding RGB value using a switch case statement.
- 22. A program that takes the input of a direction (north, south, east, west) and displays the corresponding angle using a switch case statement.
 - 23 .Program to find the maximum of two numbers using ternary operator:
 - 24.Program to find the maximum of three numbers using ternary operator:
 - 25.Program to find the maximum of four numbers using ternary operator:
 - 26.Program to find the maximum of five numbers using ternary operator:
 - 27.Program to check whether a number is even or odd using ternary operator:
 - 28.Program to check whether a number is positive, negative or zero using ternary operator.
 - 29.Program to calculate the grade of a student based on the marks obtained using ternary operator:

Loops

- 1. Program to Calculate the **Sum** of Natural Numbers
- 2. Program to Find **Factorial** of a Number
- 3. Program to Generate **Multiplication** Table
- 4. Program to Display **Fibonacci** Sequence
- 5. Program to Find **GCD/HCF** of two Numbers
- 6. Program to find the Least Common Multiple (**LCM**) of two numbers.
- 7. Program to display all characters from **A to Z** using Loops.
- 8. Program to **count** the number of **digits** in an integer.
- 9. Program to **reverse** a number.
- 10. Program to Check Whether a Number is **Palindrome** or Not.
- 11. Program to Calculate the **Power** of a Number.
- 12. Program to Check Whether a Number is **Prime** or Not.
- 13. Program to Display Prime Numbers Between Two Intervals.
- 14. Program to Check **Armstrong** Number.
- 15. Program to Display Armstrong Number between two Intervals.
- 16. Program to Display Factors of a Number (24: 1,2,3,4,6,8,12,24)
- 17. Program to Display Prime Factors of a Number (24: 2,2,2,3)
- 18. Program to Make a Simple Calculator Using switch...case.

Series

1. WAP to display first 10 positive integers on the screen using while()
2. WAP to display the first 10 positive integers in reverse order on the screen using do__ while().
3. WAP to display your name 10 times on the screen.
4. WAP to display all even numbers between 1 to 50.
5. WAP to display the first 20 odd numbers.
6. WAP to display the sum of first 10 positive integers.
7. WAP for multiplication table generation. (Output should be on following format)
 - a. *[Hint : Enter No. : 6 ;*
 - b. *Output : 6x1=6*
 - c. *6 x2=12 ,*
 - d. *... "..." }*
8. WAP to display the sum of all even numbers between 1 to 100.
9. WAP to calculate n^m
10. WAP to accept 10 numbers from users and find the maximum and minimum.
11. WAP to calculate the factorial of any number using function.
12. WAP to calculate the following series: (where ‘n’ and ‘x’ are values, entered by user)
 - a. $1 + 2 + 3 + \dots + n$
 - b. $1 - 2 + 3 - 4 + \dots + n$
 - c. $1 + 1/2 + 1/3 + \dots + 1/n$
 - d. $1/2 + 2/3 + 3/4 + \dots + n/(n+1)$
 - e. $1 + x + x^2 + x^3 + \dots + x^n$
 - f. $1 - x + x^2 - x^3 + \dots + x^n$
 - g. $1 + x + x^2/2 + x^3/3 + \dots + x^n/n$
 - h. $1 + x/1! + x^2/2! + x^3/3! + \dots + x^n/n!$
 - i. $1 - x/1! + x^2/2! - x^3/3! + \dots + x^n/n!$
 - j. $1 + x/1! + x^3/3! + \dots + x^n/n!$
 - k. $1 + x^2/2! + x^4/4! + x^6/6! + \dots + x^n/n!$

Patterns

WAP to display the following pattern on the screen using Nested Loop.

| | | | |
|--------------|--------------|--------------|------------------|
| ***** | * | ***** | * |
| ***** | ** | *** | ** |
| ***** | *** | *** | *** |
| ***** | **** | ** | **** |
| ***** | ***** | * | ***** |
| ***** | * | * | ***** |
| ***** | ** | *** | ***** |
| *** | * * | *** | ***** |
| ** | * * * | **** | **** |
| * | * * * * | ***** | * |
| 1 | 1 | 1 | 1 |
| 12 | 22 | 12 | 121 |
| 123 | 333 | 123 | 12321 |
| 1234 | 4444 | 1234 | 1234321 |
| 12345 | 55555 | 12345 | 123454321 |

Pointer (Note:Repeat All Above Looping Questions Using Pointer For loop/if/scanf/printf etc)

1. Program to Calculate the Sum of Natural Numbers
19. Program to Find Factorial of a Number
20. Program to Generate Multiplication Table
21. Program to Display Fibonacci Sequence
22. Program to Find GCD of two Numbers
23. Program to find the Least Common Multiple (LCM) of two numbers.
24. Program to display all characters from A to Z using Loops.
25. Program to count the number of digits in an integer
26. Program to reverse a number
27. Program to Check Whether a Number is Palindrome or Not
28. Program to Calculate the Power of a Number
29. Program to Check Whether a Number is Prime or Not
30. Program to Display Prime Numbers Between Two Intervals
31. Program to Check Armstrong Number
32. Program to Display Armstrong Number between two Intervals
33. Program to Display Factors of a Number
34. Program to Make a Simple Calculator Using switch...case

Arrays

1. Program to take input from user, fill in an array and display the same.
2. Write a c program to calculate the sum of a given array.
3. Write a c program to calculate the product of array elements.
4. Write a c program to calculate the average of array elements.
5. Write a c program to search an element in the array
6. Write a c program to find maximum and minimum value from the array.
7. Write a c program to find if an array is sorted.
8. Write a c program to find the second max and second min value from an array.
9. Write a c program to remove the duplicates from a sorted array.
10. Insert an element in a given position in an array.
11. Delete an element from a position in an array.
12. Left rotate an array by one place.
13. Remove an element from an array and put it at the beginning.
14. Print a running cursor.
15. Reverse the elements given in an array (don't just print)
16. Segregate 0s and 1s on either side of an array without using sorting.
17. Segregate even and odd elements on either side of an array.
18. Left rotate an element by k places.
19. Sort an array of integers using bubble sort, insertion sort and selection sort.

2D array as Matrix

1. Initialize a 2D array through user input and display.
2. Search a given element in a 2D array.
3. Find the transpose of a square matrix.
4. Find the sum, difference and product of two matrices.
5. Generate Identity matrix of a specified size.
6. Display upper diagonal matrix.
7. Display lower diagonal matrix.

String based Questions

1. Find the size of a string.
2. Reverse a string
3. Count the number of vowels in a string
4. Search a substring in a string
5. Count the number of words in a sentence.
6. Check whether a string is a palindrome or not.
7. Change the case of letters in a string.

8. Join two strings.
9. Reverse the words in a sentence.
10. Write a program that checks whether a string contains only digits and converts it into numbers.
11. Write a program to convert a decimal number into any base.
12. Count the frequency of each alphabet in a sentence.

Some More Questions On Arrays

| Q.No. | Program |
|--------------|--|
| | Using “Array” |
| 1. | WAP to accept 5 number in any array and print it |
| 2. | WAP to accept 5 number in any array and print in reverse order. |
| 3. | WAP to accept 5 number in any array copy to another array. |
| 4. | WAP to accept 5 numbers in any array, another five number in second array and store the sum in third array. |
| 5. | WAP to accept 10 number in array and find the minimum number. |
| 6. | WAP to accept 10 number in array and find the maximum and minimum number. |
| 7. | WAP to accept 10 number in array and find the second highest number |

| | |
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| 8. | WAP to accept 10 number in array the search specific number, entered by user. |
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Two Dimension Array (MATRIX)

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| 9. | WAP to accept 9 numbers in 3 x 3 array (<i>2 dimension array</i>) |
| 10. | WAP to accept 9 numbers in 3 x 3 array, and display the sum of its each <i>row</i> and <i>column</i>. |
| 11. | WAP to for 3 x 3 matrix addition. |
| 12. | WAP to for 3 x 3 matrix transpose. |
| 13. | WAP to for 3 x 3 matrix multiplication. |
| 14. | WAP to check the 3 x 3 matrix is symmetrical or not. |
| 15. | WAP to check the 3 x 3 matrix is identical or not. |

Three Dimension Array (MATRIX)

| | |
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| 16. | WAP accept numbers is 3 x 3 x 3 (<i>three/multidimensional dimension</i>) array and print it. |
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Character handling

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| 17. | WAP to accept any alphabet and change its case.(there are no change other character) |
| 18. | WAP to accept any alphabet and check whether it is vowel or consonant. |
| 19. | WAP to accept any character and print its ASCII code. |

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| 20. | WAP to accept any character using getch(), getche() and getchar() and feel the deference. |
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String handling (Without using string functions)

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| 21. | <p>WAP to accept any string and print vertically.</p> <p><i>[Hint : Enter String : Monalisa</i></p> <p>Output should be :</p> <p><i>M o n l i s a]</i></p> |
| 22. | <p>WAP to accept any string and calculate its length.</p> <p><i>[Hint : Enter String : Monalisa; Output will be : 8]</i></p> |
| 23. | <p>WAP to accept any string and print in reverse order</p> <p><i>[Hint : Enter String : Monalisa; Output will be : asilanaM]</i></p> |
| 24. | <p>WAP to accept two strings and compare it.</p> |
| 25. | <p>WAP to accept any string and count the total number of vowel and consonants.</p> |
| 26. | <p>WAP to accept any string and change in Proper case</p> <p><i>[Hint : Enter String : MOHAN KUMAR; Output will be : Mohan Kumar]</i></p> |
| 27. | <p>WAP to accept one paragraph and calculate the total no. of characters and words.</p> |

| | |
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| 28. | WAP to check entered string is palindrome or not, without using library functions. |
| 29. | WAP to check entered string is palindrome or not, using library functions. |
| 30. | <p>WAP to accept two strings and print in following format</p> <p><i>[Hint : Enter String : Monalisa]</i></p> <p><i>M</i></p> <p><i>Mo</i></p> <p><i>Mon</i></p> <p><i>Mona</i></p> <p><i>Monal</i></p> <p><i>Monali</i></p> <p><i>Monalis</i></p> <p><i>Monalisa</i></p> |

Functions

| Q. No . | Program |
|---------------|--|
| | Using “function” |
| 1. | Write a C program to find cube of any number using function. |
| 2. | Write a C program to find diameter, circumference and area of circle using functions. |

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| 3. | Write a C program to find maximum and minimum between two numbers using functions. |
| 4. | Write a C program to check whether a number is even or odd using functions. |
| 5. | Write a C program to check whether a number is prime, Armstrong or perfect number using functions. |
| 6. | Write a C program to find all prime numbers between given interval using functions. |
| 7. | Write a C program to print all strong numbers between given interval using functions. |
| 8. | Write a C program to print all Armstrong numbers between given interval using functions. |
| 9. | Write a C program to print all perfect numbers between given interval using functions. |
| 10. | Write a C program to find power of any number using recursion. |
| | |
| 11. | Write a C program to print all natural numbers between 1 to n using recursion. |
| 12. | Write a C program to print all even or odd numbers in given range using recursion. |
| 13. | Write a C program to find sum of all natural numbers between 1 to n using recursion. |

| | |
|-----|---|
| 14. | Write a C program to find sum of all even or odd numbers in given range using recursion. |
| 15. | Write a C program to find reverse of any number using recursion. |
| 16. | Write a C program to check whether a number is palindrome or not using recursion |
| 17. | Write a C program to find sum of digits of a given number using recursion. |
| 18. | Write a C program to find factorial of any number using recursion. |
| 19. | Write a C program to generate nth Fibonacci term using recursion. |
| 20. | Write a C program to find GCD (HCF) of two numbers using recursion. |

| | |
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| 21. | Write a C program to find LCM of two numbers using recursion. |
| 22. | Write a C program to display all array elements using recursion. |
| 23. | Write a C program to find sum of elements of array using recursion. |
| 24. | Write a C program to find maximum and minimum elements in array using recursion |

Structure

| Q.N o. | Programs | | | | | | | | | | | | | | | | | | |
|---------------|--|--------------------|------------------|--------------------|--------------|------------------|-------------|--------------|------------------|-------------|------------|------------------|-------------|---------------|------------------|-------------|---------------|------------------|-------------|
| | Structure/ Union | | | | | | | | | | | | | | | | | | |
| 1. | Make an appropriate structure for any student. Also accept one record and print it. | | | | | | | | | | | | | | | | | | |
| 2. | <p>Make a structure for employee data, also accept records and print in tabular format.: Hint :</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;"><i>Name</i></th> <th style="text-align: center;"><i>Co de</i></th> <th style="text-align: center;"><i>Sala ry</i></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><i>Mohan</i></td><td style="text-align: center;"><i>E1 01</i></td><td style="text-align: center;"><i>8000</i></td></tr> <tr> <td style="text-align: center;"><i>Sohan</i></td><td style="text-align: center;"><i>E1 02</i></td><td style="text-align: center;"><i>7000</i></td></tr> <tr> <td style="text-align: center;"><i>Raj</i></td><td style="text-align: center;"><i>E1 03</i></td><td style="text-align: center;"><i>9000</i></td></tr> <tr> <td style="text-align: center;"><i>Ramesh</i></td><td style="text-align: center;"><i>E1 04</i></td><td style="text-align: center;"><i>5000</i></td></tr> <tr> <td style="text-align: center;"><i>Suresh</i></td><td style="text-align: center;"><i>E1 05</i></td><td style="text-align: center;"><i>4000</i></td></tr> </tbody> </table> | <i>Name</i> | <i>Co de</i> | <i>Sala ry</i> | <i>Mohan</i> | <i>E1 01</i> | <i>8000</i> | <i>Sohan</i> | <i>E1 02</i> | <i>7000</i> | <i>Raj</i> | <i>E1 03</i> | <i>9000</i> | <i>Ramesh</i> | <i>E1 04</i> | <i>5000</i> | <i>Suresh</i> | <i>E1 05</i> | <i>4000</i> |
| <i>Name</i> | <i>Co de</i> | <i>Sala ry</i> | | | | | | | | | | | | | | | | | |
| <i>Mohan</i> | <i>E1 01</i> | <i>8000</i> | | | | | | | | | | | | | | | | | |
| <i>Sohan</i> | <i>E1 02</i> | <i>7000</i> | | | | | | | | | | | | | | | | | |
| <i>Raj</i> | <i>E1 03</i> | <i>9000</i> | | | | | | | | | | | | | | | | | |
| <i>Ramesh</i> | <i>E1 04</i> | <i>5000</i> | | | | | | | | | | | | | | | | | |
| <i>Suresh</i> | <i>E1 05</i> | <i>4000</i> | | | | | | | | | | | | | | | | | |
| 3. | <p>Write a menu driven program using above structure for :</p> <ol style="list-style-type: none"> 1. Search the employee name and its salary on the basis of its code. 2. Delete the record 3. Modify the record | | | | | | | | | | | | | | | | | | |
| 4. | Make a structure and union having same data members, print the size of both using <i>sizeof()</i> and observe the output. | | | | | | | | | | | | | | | | | | |

File Handling

| Data File handling | | |
|--------------------|---|--|
| 1. | WAP to accept the stream of characters and store in file named <i>data.dat</i> using <i>getc()</i>. | |
| 2. | WAP to read the already existing file named “<i>data.dat</i>” using <i>putc()</i> and print on the screen | |
| 3. | WAP to store five names in any file and print it. | |
| 4. | WAP to store the records of employee in file ‘emp.dat’ and read it. (As per question no.2) | |
| 5. | <p>Write a menu driven program for following : <i>file structure emp (name, code, salary)</i></p> <ul style="list-style-type: none"> 1. Create a new file 2. View all records 3. Search Record 4. Delete Record 5. Edit Record 6. Exit | |

- 6. Merge two files In a single file.
- 7. Copy one file to another file in reverse order.
- 8. Remove all the comments of current c file.
- 9. A paragraph present in a file, by mistake there are more than one space entered at some places
between two word ,remove all such extra spaces and create a new file.