Simple C Programs for Practice

C Program to Find Area And Circumference of Circle

- Find Area of Square formula : a = a2
- Find Area of Cube formula : a = 6a2
- Find area of Triangle Formula : A = 1/2 × b × h
- Find area of Rectangle Formula : A=wl
- Find circumference of Rectangle formula : C = 4 * a
- Find circumference of Triangle formula : triangle = a + b + c
- find the area of a rectangular prism formula : A=2(wl+hl+hw)
- Find circumference of square formula : C = 4 * a
- Accept number of students from user. I need to give 5 apples to each student. How many apples are required?

Print the ASCII Value of the Character

- Find character value from ascii
- Find ascii value of given number

C Program to Convert a Person's Name in Abbreviated Form

- Convert school's name in abbreviated form
- Convert country's name in abbreviate form

Calculate a Simple Interest

- Calculate person's insurance premium based on salary
- Calculate person's Annual salary
- Calculate compound interest

Gross Salary Program in C Programs

- Accept monthly salary from the user and deduct 10% insurance premium , 10% loan installment find out of remaining salary.

C Program to Find Percentage of 5 Subjects

- Accept 5 employees name and salary and count average and total salary
- Accept 5 expense from user and find average of expense

Convert Temperature Celsius into Fahrenheit

- Convert temperature fahrenheit to celsius
- Convert days into months
- Convert years into days and months
- Convert minutes into seconds and hours
- Convert kilometers into meters

Write a C Program to Display The Size of Different Data Types

- Accept 2 numbers and find out its sum check it size

C Program to Read Integer and Print First Three Powers (N^1, N^2, N^3)

Accept number and find out square of that value

If/Else Statements

1. Check Number Is Positive or Negative
   1.1. Find the Character Is Vowel or Not
   1.2. Accept marks from user and check pass or fail
   1.3. C Program to Check Uppercase or Lowercase or Digit or Special Character
   1.4. to check whether a number is negative, positive or zero.
2. Find the Greatest Among Three Numbers
   2.1. Find the minimum among three numbers
3. Checking Whether You Are Eligible for Voting or Not
   3.1. to check whether a character is in the alphabet or not.
   3.2. to input any alphabet and check whether it is a vowel or consonant.
4. Checking Number Is Even or Odd
   4.1. Your year is leap year or not
   4.2. Count no. of even numbers and no. of odd number
   4.3. Count total sum of even number and total no. of odd numbers
   4.4. Count total sum of positive number and total no. of negative numbers
   4.5. Find maximum in 2 variable
   4.6. Find minimum in 2 variable
5. Given Date Month and the Year Is Correct or Not Using If-Else
   5.1. to input the week number and print week day.
   5.2. Accept month number and display month name
   5.3. Accept the input month number and print number of days in that month.

6. Write a C program to input marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer. Calculate percentage and grade according to following:
Percentage >= 90% : Grade A
Percentage >= 80% : Grade B
Percentage >= 70% : Grade C
Percentage >= 60% : Grade D
Percentage >= 40% : Grade E
Percentage < 40% : Grade.

6.1. Write a C program to input basic salary of an employee and calculate its Gross salary according to following:
Basic Salary <= 10000 : HRA = 20%, DA = 80%
Basic Salary <= 20000 : HRA = 25%, DA = 90%
Basic Salary > 20000 : HRA = 30%, DA = 95%

6.2. Write a C program to input electricity unit charges and calculate total electricity bill according to the given condition:
For first 50 units Rs. 0.50/unit
For next 100 units Rs. 0.75/unit
For next 100 units Rs. 1.20/unit
For unit above 250 Rs. 1.50/unit
An additional surcharge of 20% is added to the bill

Loops

Loops are very very important in programming, In total there are 3 types of loops mostly used in programming languages. Ie. While Loop, Do-While Loop, and everyone's favorites FOR LOOP. Get the C Programs for Practice PDF for all types of loops in the C programming language.

1. **C Program to Reverse a Number Using FOR Loop**

a. Accept 10 number using for loop and check no. of even numbers and odd numbers

b. Accept 5 names from user at run time.

2. **Program of Armstrong Number in C Using For Loop & While Loop**
   a. Calculate the Factorial of a Given Number
   b. Accept 5 numbers from user and find those numbers factorials
   c. Calculate sum of 10 numbers using of while loop

3. **Calculate the Sum of Natural Numbers Using the While Loop**
   a. Calculate 5 numbers from user and calculate number of even and odd using of while loop
4. **Write a C Program to Print the Multiplication Table of N**
   a. Write multiplication table using while loop
   b. Display below pattern using for loop

```
1   2   3  4   5  6   7   8  9  10
11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30
```

5. **Fibonacci Series Program in C Using DO While Loop**
   a. Find the GCD of Two Numbers Using Loop
   b. Accept 5 numbers from user and find each numbers factorial

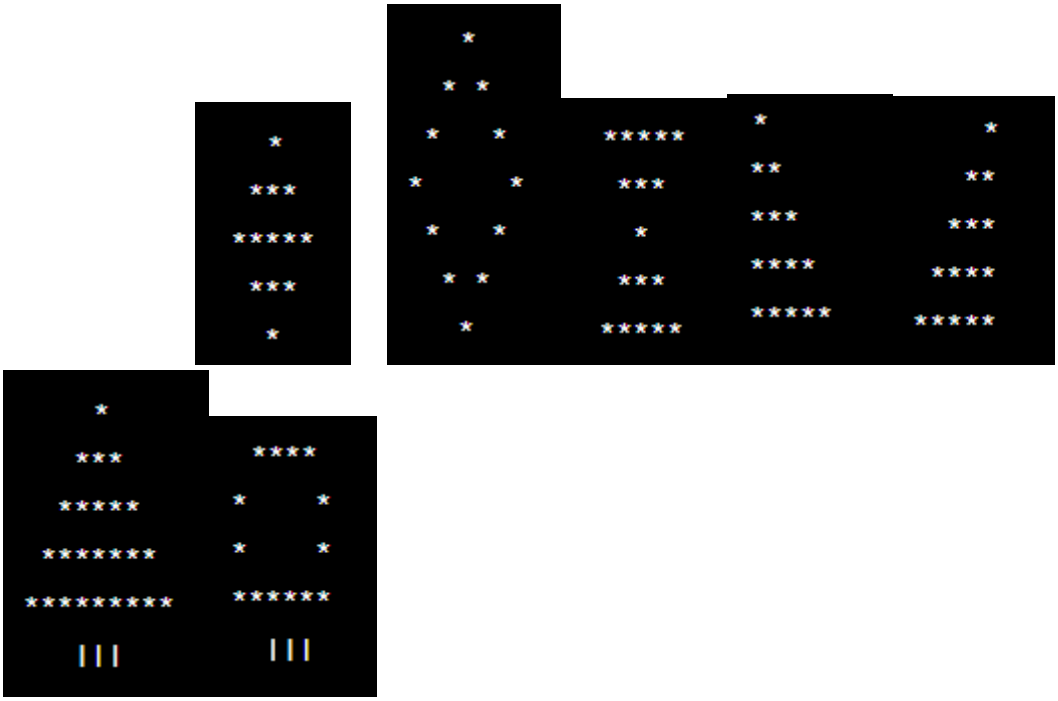
6. **Program to Find LCM of Two Numbers in C Using While Loop**
   a. C Program to Reverse a Number Using FOR Loop
7. **Palindrome Program in C Using While Loop**
   a. Accept 3 numbers from user using while loop and check each numbers palindrome

8. **Count the Number of Digits of an Integer Using the While Loop**
   a. Calculate 1st and last digits addition using while loop
      i. E.g. 24598 sum 2+8 = 10
   b. Calculate all digits addition using while loop
      i. E.g. 4523 sum = 14
9. **Find a Generic Root of a Number Using While Loop**
10. **C Program to Print The Calendar of a Month of 31 Days**
    a. Accept day name from user

11. **C Program To Generate IP Addresses(IPv4 & IPv6) Using For Loop**
    a. Check Whether a Number Is Divisible by 11 Using (Vedic Maths)
12. **C Program to Sort an Array in Ascending And Descending Order**
    a. Denomination of an Amount Using While Loop

Patterns

1. Home Pattern with Help of *



Number Piramid

1
12
123
1234
12345

1
21
321
4321

54321

a
ab
abc
abcd
abcde

1
23
456
78910
1112131415

1
10
101
1010
10101

12345
1234
123
12
1

Pascal Triangle Using a Number
1
11
121
1331
14641

Switch Case

1. **C Program to Convert Celsius to Fahrenheit And Vice Versa**
   a. C Program to Print Day of Week Name Using Switch Case
   b. Write a C Program to Make a Simple Calculator Using Switch Case
   c. Write a C Program to Find the Grade of a Student Using Switch Case

d. Finding Radius Circumference
e. Remove All Vowels from a String

Arrays

1. **Insert an Element at a Specific Position in an Array in C Program**
   a. C Program for Remove Duplicates Items
   b. Delete Element from an Array at a Desired or Specific Position
   c. Print "I AM IDIOT" Instead of Your Name Using an Array
2. **String Palindrome Program in C With Explanation**
   a. Convert All Input String Simultaneously into an Asterisk *

Strings

1. **C Program for Remove All Vowels from a String**
   a. C Program to Delete a Substring From a String
   b. Convert String to Integer Without Using Library Functions
   c. C Program to Convert Lowercase to Uppercase And Vice Versa
   d. Program for Reverse a String Using Library
   e. Write a Program to Reverse a String in C
   f. Compare Two String Using STRCMP Function
   g. String Palindrome Program in C With Explanation
   h. Find the Number of Vowels, Consonants, Digits and White Space Character

Functions

1. **Convert Binary Numbers to Decimal or Decimal Numbers to Binary**
   a. Convert Octal Numbers to Decimals and Vice Versa
   b. C Program for Convert Binary to Octal and Vice Versa
   c. Display Prime Numbers Between Intervals
   d. C Program to Check Prime or Armstrong Number

Pointers

1. **C Program for Reverse a String Using Pointer**
   a. Write a C Program to Compare Two Strings Using Pointers
   b. Open a File(open a Program Itself) Using Pointer

Sorting

1. BUBBLE Sort in Ascending and Descending Order
2. SELECTION Sort in Ascending and Descending Order
3. INSERTION Sort in Ascending Order
4. QUICK Sort in Ascending Order
5. MERGE Sort in Ascending Order
6. Heap Sort in Ascending Order with Complexity

Searching

1. Linear Search Program in C
2. Binary Search Program in C

Question:

Given a string, determine if it is a palindrome, considering only alphanumeric characters

and ignoring cases.

For example,

"A man, a plan, a canal: Panama" is a palindrome.

"race a car" is *not* a palindrome.

Example Questions Candidate Might Ask:

Q: What about an empty string? Is it a valid palindrome?

A: For the purpose of this problem, we define empty string as valid palindrome

Question:

Given an input string ***s***, reverse the string word by word.

For example, given ***s*** = "the sky is blue", return "blue is sky the".

Example Questions Candidate Might Ask:

Q: What constitutes a word?

A: A sequence of non-space characters constitutes a word.

Q: Do tab or newline characters count as space characters ?

A: Assume the input does not contain any tabs or newline characters.

Q: Could the input string contain leading or trailing spaces?

A: Yes. However, your reversed string should not contain leading or trailing spaces.

Q: How about multiple spaces between two words?

A: Reduce them to a single space in the reversed string.

Challenge 1:

Implement the two-pass solution without using the library's split function.

Challenge 2:

Rotate an array to the right by *k* steps in-place without allocating extra space.

For instance , with *k* = 3, the array [0, 1, 2, 3, 4, 5, 6] is rotated to [4, 5, 6, 0, 1, 2, 3].

Question:

Reverse digits of an integer. For example: x = 123, return 321.

Example Questions Candidate Might Ask:

Q: What about negative integers?

A: For input x = –123, you should return –321.

Q: What if the integer's last digit is 0? For example, x = 10, 100, …

A: Ignore the leading 0 digits of the reversed integer. 10 and 100 are both reversed as 1.

Q: What if the reversed integer overflows? For example, input x = 1000000003.

A: In this case, your function should return 0.

Question:

Given a number represented as an array of digits, plus one to the number.

Example Questions Candidate Might Ask:

Q: Could the number be negative?

A: No. Assume it is a non-negative number.

Q: How are the digits ordered in the list? For example, is the number 12 represented by [1,2] or

[2,1]?

A: The digits are stored such that the most significant digit is at the head of the list.

Q: Could the number contain leading zeros, such as [0,0,1]?

A: No.

Question:

Determine whether an integer is a palindrome. Do this without extra space.

Example Questions Candidate Might Ask:

Q: Does a negative integer such as –1 qualify as a palindrome?

A: For the purpose of discussion here, we define negative integers as non-palindrome.

Given a linked list, swap every two adjacent nodes and return its head.

For example,

Given 1 „³ 2 „³ 3 „³ 4, you should return the list as 2 „³ 1 „³ 4 „³ 3.

Your algorithm should use only constant space. You may not modify the values in the

list, only nodes itself can be changed.

Example Questions Candidate Might Ask:

Q: What if the number of nodes in the linked list has only odd number of nodes?

A: The last node should not be swapped.