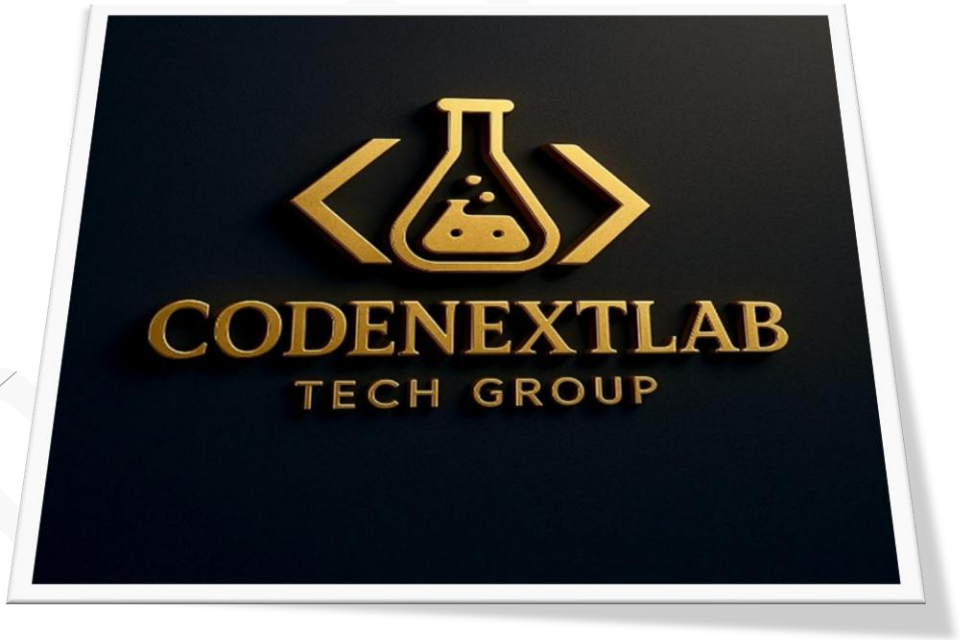
Welcome To

C Programming Chapterwise Practice Set



C PROGRAMMING CHAPTERWISE Practice set –Question Bank

Author: Debananda Kuanr

Contact: debanandakuanr453@gmail.com

Website: https://codenextlab.com

CHAPTER 1- PRACTICE SET

1. Write a C program to calculate area of a rectangle:

    a. Using hard coded inputs.

    b. Using inputs supplied by the user.

2. Calculate the area of a circle and modify the same program to calculate the volume of a cylinder given its radius and height.

3. Write a program to convert Celsius (Centigrade degrees temperature to Fahrenheit).

4. Write a program to calculate simple interest for a set of values representing principal, number of years and rate of interest.

CHAPTER 2 – PRACTICE SET

1. Which of the following is invalid in C?

    a. int a=1; int b = a;

    b. int v = 3*3;

    c. char dt = '21 dec 2020';

2. What data type will 3.0/8 – 2 return?

3. Write a program to check whether a number is divisible by 97 or not.

4. Explain step by step evaluation of 3*x/y – z+k, where x=2, y=3, z=3, k=1

5. 3.0 + 1 will be:

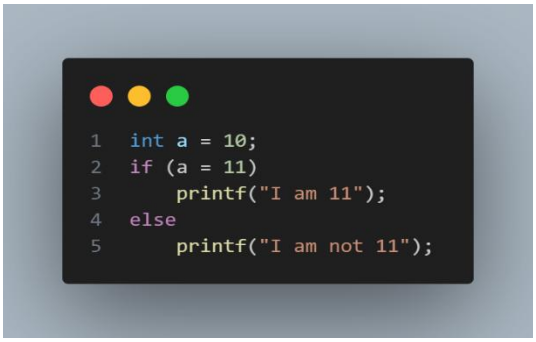
    a. Integer.

    b. Floating point number.

    c. Character.

CHAPTER 3 – PRACTICE SET

1.What will be the output of this program



```
1  int a = 10;
2  if (a = 11)
3      printf("I am 11");
4  else
5      printf("I am not 11");
```

2. Write a program to determine whether a student has passed or failed. To pass, a student requires a total of 40% and at least 33% in each subject. Assume there are three subjects and take the marks as input from the user.

3. Calculate income tax paid by an employee to the government as per the slabs mentioned below:

Income Slab	Tax
2.5 – 5.0L	5%
5.0L - 10.0L	20%
Above 10.0L	30%

Note that there is no tax below 2.5L. Take income amount as an input from the user.

4. Write a program to find whether a year entered by the user is a leap year or not. Take year as an input from the user.

5. Write a program to determine whether a character entered by the user is lowercase or not.

6. Write a program to find greatest of four numbers entered by the user.

CHAPTER 4 – PRACTICE SET

1. Write a program to print multiplication table of a given number n.

2. Write a program to print multiplication table of 10 in reversed order.

3. A do while loop is executed:

    a. At least once.

    b. At least twice.

    c. At most once.

4. What can be done using one type of loop can also be done using the other two types of loops – true or false?

5. Write a program to sum first ten natural numbers using while loop.

6. Write a program to implement program 5 using 'for' and 'do-while' loop.

7. Write a program to calculate the sum of the numbers occurring in the multiplication table of 8. (consider 8 x 1 to 8 x 10).

8. Write a program to calculate the factorial of a given number using a for loop.

9. Repeat 8 using while loop.

10. Write a program to check whether a given number is prime or not using loops.

11. Implement 10 using other types of loops.

PROJECT 1: NUMBER GUESSING GAME

We will write a program that generates a random number and asks the player to guess it. If the player's guess is higher than the actual number, the program displays "Lower number please". Similarly, if the user's guess is too low, the program prints "Higher number please".

When the user guesses the correct number, the program displays the number of guesses the player used to arrive at the number.

Hint: Use loop & use a random number generator.

CHAPTER 5 – PRACTICE SET

1. Write a program using function to find average of three numbers.

2. Write a function to convert Celsius temperature into Fahrenheit.

3. Write a function to calculate force of attraction on a body of mass 'm' exerted by earth. Consider g = 9.8m/s2.

4. Write a program using recursion to calculate nth element of Fibonacci series.

5. What will the following line produce in a C program:

```
1  int a = 4;
2  printf("%d %d %d \n", a, ++a, a++);
```

6. Write a recursive function to calculate the sum of first ‘n’ natural numbers.

7. Write a program using function to print the following pattern (first n lines)

*

* * *

* * * * *

CHAPTER 6 – PRACTICE SET

1. Write a program to print the address of a variable. Use this address to get the value of the variable.

2. Write a program having a variable ‘i’. Print the address of ‘i’. Pass this variable to a function and print its address. Are these addresses same? Why?

3. Write a program to change the value of a variable to ten times of its current value.

4. Write a function and pass the value by reference.

5. Write a program using a function which calculates the sum and average of two numbers. Use pointers and print the values of sum and average in main().

6. Write a program to print the value of a variable i by using “pointer to pointer” type of variable.

7. Try problem 3 using call by value and verify that it does not change the value of the said variable.

CHAPTER 7 – PRACTICE SET

1. Create an array of 10 numbers. Verify using pointer arithmetic that (ptr+2) points to the third element where ptr is a pointer pointing to the first element of the array.

2. If S[3] is a 1-D array of integers then *(S+3) refers to the third element:

(i) True.

(ii) False.

(iii)Depends.

3. Write a program to create an array of 10 integers and store multiplication table of 5 in it.
4. Repeat problem 3 for a general input provided by the user using scanf.

5. Write a program containing a function which reverses the array passed to it.

6. Write a program containing functions which counts the number of positive integers in an array.

7. Create an array of size 3 x 10 containing multiplication tables of the numbers 2,7 and 9 respectively.

8. Repeat problem 7 for a custom input given by the user.

9. Create a three–dimensional array and print the address of its elements in increasing order.

CHAPTER 8 – PRACTICE SET

1. Which of the following is used to appropriately read a multi-word string.

1. gets()
2. puts()
3. printf()
4. scanf()

2. Write a program to take string as an input from the user using %c and %s confirm that the strings are equal.

3. Write your own version of strlen function from

4. Write a function slice() to slice a string. It should change the original string such that it is now the sliced string. Take 'm' and 'n' as the start and ending position for slice.

5. Write your own version of strcpy function from

6. Write a program to encrypt a string by adding 1 to the ascii value of its characters.

7. Write a program to decrypt the string encrypted using encrypt function in problem 6.

8. Write a program to count the occurrence of a given character in a string.

9. Write a program to check whether a given character is present in a string or not.

CHAPTER 9 – PRACTICE SET

1. Create a two-dimensional vector using structures in C.

2. Write a function 'sumVector' which returns the sum of two vectors passed to it. The vectors must be two–dimensional.

3. Twenty integers are to be stored in memory. What will you prefer- Array or structure?

4. Write a program to illustrate the use of arrow operator → in C.

5. Write a program with a structure representing a complex number.

6. Create an array of 5 complex numbers created in Problem 5 and display them with the help of a display function. The values must be taken as an input from the user.

7. Write problem 5's structure using 'typedef' keywords.

8. Create a structure representing a bank account of a customer. What fields did you use and why?

9. Write a structure capable of storing date. Write a function to compare those dates.

10. Solve problem 9 for time using 'typedef' keyword.

CHAPTER 10 – PRACTICE SET

1. Write a program to read three integers from a file.

2. Write a program to generate multiplication table of a given number in text format. Make sure that the file is readable and well formatted.

3. Write a program to read a text file character by character and write its content twice in separate file.

4. Take name and salary of two employees as input from the user and write them to a text file in the following format: i. Name1, 3300 ii. Name2, 7700

5. Write a program to modify a file containing an integer to double its value.

PROJECT 2: SNAKE, WATER, GUN

Snake, water, gun or rock, paper, scissors is a game most of us have played during school time. (I sometimes play it even now).

Write a C program capable of playing this game with you.

Your program should be able to print the result after you choose snake/water or gun.

CHAPTER 11 – PRACTICE SET

1. Write a program to dynamically create an array of size 6 capable of storing 6 integers.

2. Use the array in problem 1 to store 6 integers entered by the user.

3. Solve problem 1 using calloc().

4. Create an array dynamically capable of storing 5 integers. Now use realloc so that it can now store 10 integers.

5. Create an array of multiplication table of 7 upto 10 (7 x 10 = 70). Use realloc to make it store 15 number (from 7 x 1 to 7 x 15).

6. Attempt problem 4 using calloc().

Thankyou

Keep it up …….