

- The do-while loop is a type of loop where the code block is executed at least once, and then the condition is checked.
- If the condition is true, the loop will continue to execute the code block.
- If the condition is false, the loop will terminate and the program will proceed to the next statement after the loop.

Syntax of a do-while loop in C:



```
do {  
    // code to be executed  
} while (condition);
```

Example:



```
#include <stdio.h>  
  
int main() {  
    int count = 0;  
  
    do {  
        printf("Count: %d\n", count);  
        count++;  
    } while (count < 5);  
  
    return 0;  
}
```

Explanation:

- In this example, the variable count is initially set to 0.
- The code block inside the do-while loop is executed first, which prints the current value of count.
- Then, the count variable is incremented by 1.
- The condition $\text{count} < 5$ is checked, and since it is true, the loop continues to execute.
- This process repeats until count becomes 5, at which point the condition becomes false, and the loop terminates.

Output:

Output

```
Count: 0
Count: 1
Count: 2
Count: 3
Count: 4
```

Practice Problems On Do While Loop In C:

Problem 1: Sum of Digits

Write a program that calculates the sum of the digits of a given positive integer.



```
#include <stdio.h>

int main() {
    int num, digit, sum = 0;

    printf("Enter a positive integer: ");
    scanf("%d", &num);

    do {
        digit = num % 10;
        sum += digit;
        num /= 10;
    } while (num > 0);

    printf("Sum of digits: %d\n", sum);

    return 0;
}
```

Explanation:

- The program takes input from the user for a positive integer num.
- It initializes variables digit and sum to 0. The do-while loop executes the code block at least once.
- In each iteration, the last digit of num is obtained using the modulo operator (%) and stored in digit.
- The digit is added to the sum.
- The last digit of num is removed by dividing it by 10.
- The loop continues until num becomes 0.

- Finally, the sum of the digits is printed.

Output:

Output 

```
Enter a positive integer: 25
Sum of digits: 7
```

Problem 2: Guessing Game

Write a program that generates a random number between 1 and 100. The user needs to guess the number, and the program provides feedback on whether the guess is too high or too low until the correct number is guessed.

C 

```
#include <stdio.h>
#include <stdlib.h>
#include <time.h>

int main() {
    int number, guess, attempts = 0;

    srand(time(0));
    number = rand() % 100 + 1;

    do {
```

```
printf("Guess the number (1-100): ");
scanf("%d", &guess);

attempts++;

if (guess > number) {
    printf("Too high\n");
} else if (guess < number) {
    printf("Too low\n");
} else {
    printf("Congratulations! You guessed it right in %d
attempts.\n", attempts);
}
} while (guess != number);

return 0;
}
```

Explanation:

- The program generates a random number between 1 and 100 using the rand() function with the help of time() for seed initialization.
- The variable guess stores the user's input for the guessed number.
- The attempts variable keeps track of the number of attempts made.
- Inside the do-while loop, the user is prompted to enter a guess.
- Depending on whether the guess is too high or too low, the program provides appropriate feedback.
- If the guess is correct, the loop terminates, and the number of attempts is displayed.

Output:

Output 

```
Guess the number (1-100): 50
Too high
Guess the number (1-100): 35
Too low
Guess the number (1-100): 38
Too low
Guess the number (1-100): 41
Too low
Guess the number (1-100): 46
Too low
Guess the number (1-100): 48
Congratulations! You guessed it right in 6 attempts.
```

Related posts:

1. C prgoram to convert inch to feet
2. C program to convert KM to CM
3. C program to convert meter to centimeter
4. C program to calculate remainder, difference, division, product
5. C program to use printf() without semicolon " ; "
6. C program to swap two numbers using 2 variables
7. C program to find nth term using Arithmetic progrssion
8. C program to find sum of first n even positive numbers
9. C program to calculate sum of first n even numbers
10. C program to find nth odd number
11. C program to find sum of first n odd positive numbers

12. C program to calculate perimeter and area of a rectangle
13. C program to calculate perimeter and area of a square
14. C program to calculate Perimeter and Area of Circle
15. Function in C Programming
16. C Programming Q & A
17. Main function in C Programming Q and A
18. Void main in C Programming
19. Variables Q and A in C Programming
20. Write a C Program to find the percentage of marks ?
21. Write a c program to find age of a person ?
22. Write a c program to get table of a number
23. What is Break statement in C Programming ?
24. Write a c program to generate all combinations of 1, 2 and 3 using for loop.
25. Write a C program to print all the prime numbers between 1 to 50.
26. Write a C program to get factorial of a number ?
27. What is user defined function in C programming ?
28. Difference between C and C++ Programming ?
29. Difference between C, C++ and Java Programming
30. C program addition of numbers using pointer
31. C Syntax
32. Comments in C
33. Variables in C
34. Data types in C
35. Format specifiers in C
36. Type Conversion in C
37. Constants in C
38. Operators in C

39. Pre and Post Increment Practice Problems
40. Pre and Post Increment
41. Array in C
42. C Introduction
43. C Get Started
44. C Pointers
45. C History
46. C Program Compiling and running
47. C While loop
48. C For loop
49. break and continue statement
50. Control Statements in C
51. C if-else ladder
52. C if statements
53. C 2-Dimensional array
54. C String library functions
55. C Functions
56. C Functions Categories
57. C Actual Arguments
58. Write a program that prints the message "Hello, World!"
59. Write a program that asks the user to enter two numbers, and then prints the sum of those two numbers.
60. Write a program that asks the user to enter a number and then determines whether the number is even or odd.
61. Write a program that swaps the values of two variables.
62. Write a program that asks the user to enter a number and then calculates and prints its factorial.

63. Write a program that asks the user to enter a number N and then prints the first N numbers in the Fibonacci sequence
64. Write a program that swaps the values of two variables without using a temporary variable
65. Converts a number into integer, float, and string
66. Program to find the length of the string
67. Program to convert string to uppercase or lowercase
68. Program to prints the numbers from 1 to 10.
69. What is identifier expected error
70. Difference between static and non static methods in Java
71. C String Input
72. C Character input
73. C Programming Variables MCQ
74. Object & Classes
75. C Programming find the output MCQs