

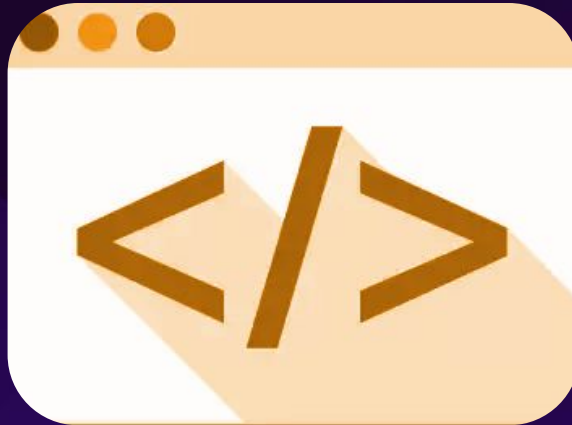
INTRODUCTION TO C PROGRAMMING

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What is Programming ?

It is a mechanism to solve any real-life problems with the help of computer or we can say Computer programming is a way to understand and solve a problem using computers.



Purpose of Programming

- Automation
- Problem Solving
- Creating Software Applications
- Gaming and Entertainment
- Innovation and Exploration
- Data Analysis and Manipulation

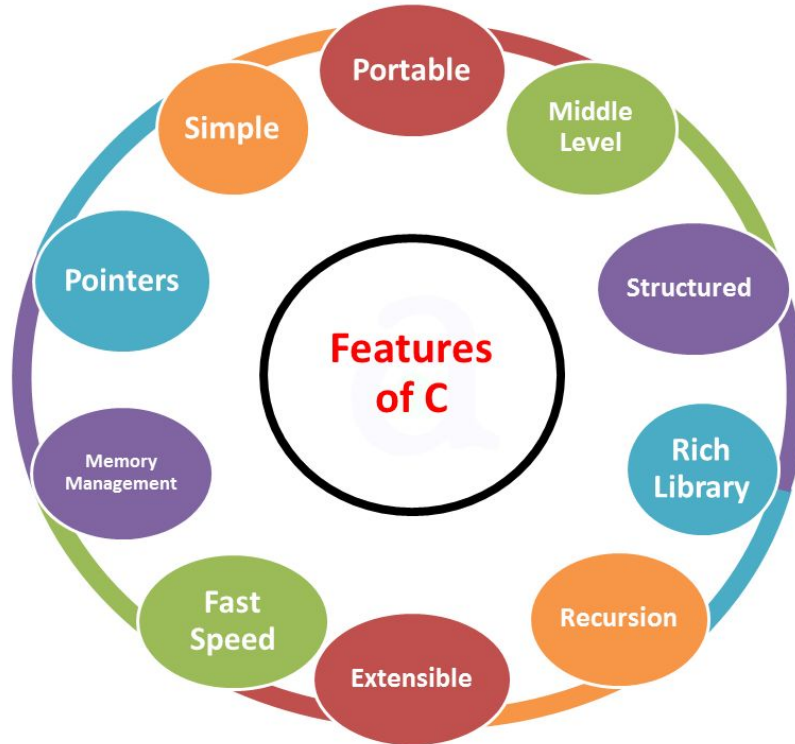
Introduction To C

- C is a general-purpose programming language.
- C is a powerful language that is used to create a wide variety of software, including operating systems, compilers, and video games.
- C is a procedural programming language, which means that programs are written as a series of steps.

HISTORY OF C PROGRAMMING

- The C programming language was developed in the early 1970s by Dennis Ritchie at Bell Labs.
- C was originally developed as a system implementation language for the Unix operating system.
- C is a general-purpose language that is known for its efficiency and portability.
- It was designed to be a low-level language for system programming but has since been used for a wide range of applications.

Features of C Language



Advantages of C Programming Language?

- Easy to write
- Low cost
- Fast execution speed
- Portable
- Easy debugging
- Procedure Oriented Language
- Speed of Compilation
- Execution of algorithms and data structures.

Disadvantages of C Programming Language ?

- C is a low-level language. This means that it gives the programmer a lot of control over the computer, but it can also be more difficult to learn and use.
- C is not a very forgiving language. This means that even small errors can cause the program to crash.
- C is not a very portable language. This means that code written in C for one platform may not work on another platform without modification.

STRUCTURE OF A C PROGRAMMING

A C program is divided into FIVE sections:

- **Documentation section:** This section contains comments that provide information about the program.
- **Preprocessor section:** This section contains preprocessor directives that are used to control the compilation of the program.
- **Definition section:** This section contains the definitions of all the variables, functions, and macros used in the program.

STRUCTURE OF A C PROGRAMMING

- **Global declaration section:** This section contains the declarations of all the global variables used in the program.
- **Main() function section:** This section contains the main() function, which is the starting point of the program.

Example

CODE

```
#include <stdio.h>

int main(void) {
    printf("Hello world!\n");
    return 0;
}
```

OUTPUT

Input	Output	
1	Hello world!	

Write a Program and Check whether its Even or Odd Number

CODE

```
#include <stdio.h>

int main() {
    int number;
    printf("Enter an integer: ");
    scanf("%d", &number);

    if (number % 2 == 0)
        printf("%d is even.\n", number);
    else
        printf("%d is odd.\n", number);

    return 0;
}
```

OUTPUT

Output	Input
1	Enter an integer: 2 is even.

Write a Program and Swap Two Numbers

CODE

```
#include <stdio.h>

void swap(int *a, int *b) {
    int temp = *a;
    *a = *b;
    *b = temp;
}

int main() {
    int num1, num2;
    printf("Enter two numbers: ");
    scanf("%d %d", &num1, &num2);

    printf("Before swapping: num1 = %d, num2 = %d\n", num1, num2);
    swap(&num1, &num2);
    printf("After swapping: num1 = %d, num2 = %d\n", num1, num2);

    return 0;
}
```

OUTPUT

Output	Input
1	Enter two numbers: Before swapping: num1 = 2, num2 = 32765
2	After swapping: num1 = 32765, num2 = 2

Write a Program to Add Two Numbers

CODE

```
#include <stdio.h>
int main() {
    int num1, num2, sum;

    printf("Enter the first number: ");
    scanf("%d", &num1);

    printf("Enter the second number: ");
    scanf("%d", &num2);

    sum = num1 + num2;

    printf("The sum of %d and %d is %d.\n", num1, num2, sum);

    return 0;
}
```

OUTPUT

Input	Output
1	Enter the first number: Enter the second number: The sum of 20 and 40 is 60.

SUMMARY

- We have covered about C Introduction, and Basics.
- We have discussed about Structure of a C programming with some programs.



THANK YOU !