



BCA - 1st

Shakuntala Krishna Institute

College Code - KD 64

of Technology

Affiliated to CSJM University
Kanpur

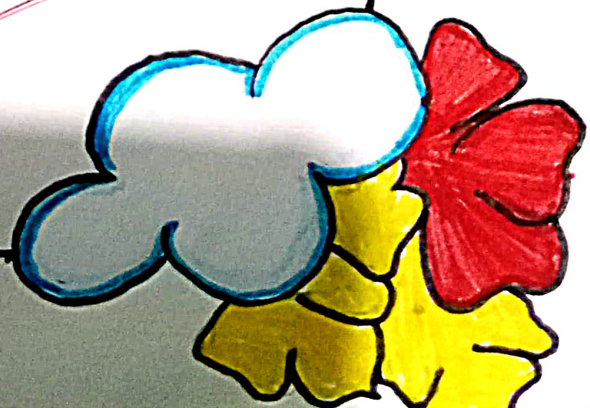
Assignment

C - Programming

Name - Kashish Sharma

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06/09/25



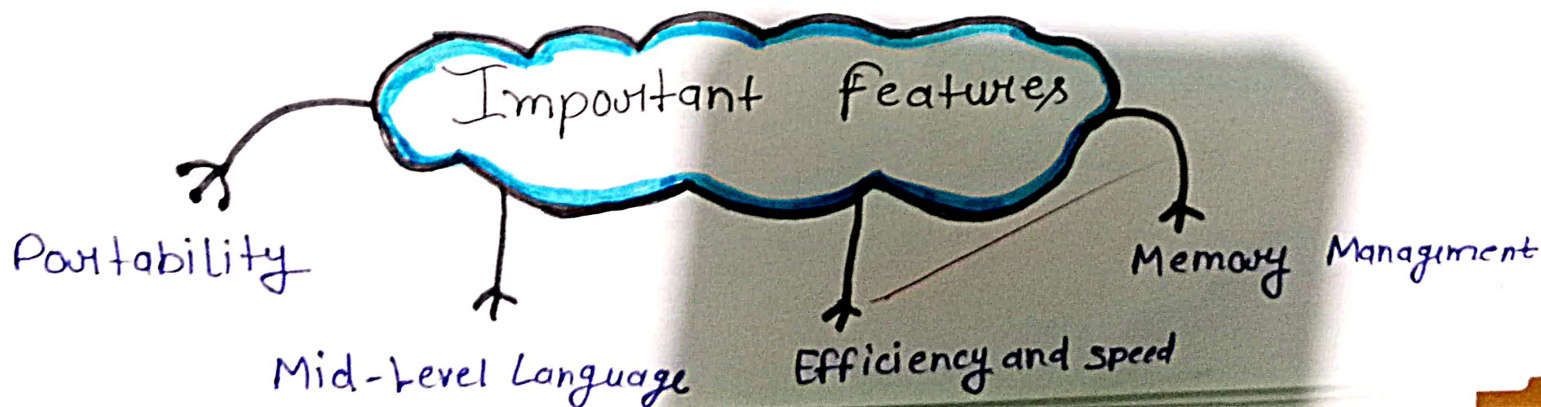
Question-1 - Write a short note on the history of C language. Why is it called a middle level language? List any four importance features of C. Also explain the advantages and disadvantages of C language?

- Answer - C - programming language -

C is a procedural programming language developed by Dennis Ritchie at Bell Laboratories in early 1970s.

Middle level language -

it combines features of both - low-level and high-level languages bridging the gap between machine-level instructions and human readable syntax.



Portability - Portability is the option to move certain employer benefits along with you if you change employers.

Mid-level language -

A mid-level language is a type of programming language that blends features of both low-level and high level languages, offering direct hardware interaction (like low-level) and abstract, human-readable constructs (like, high-level).

Efficiency and speed - Speed is how fast an action is performed, focusing on completing tasks quickly, while efficiency is the ability to perform tasks with the least amount of time and resources, resulting in the same or better outcomes with fewer steps.

Memory Management - Memory management is the process of controlling, allocating and freeing up a computer's main (RAM) memory for various running programs and processes.

Advantage of C.

(i) Fast Execution -

It works close to machine code so it executes very quickly.

(ii) Portable -

A program written in C can run on different systems with little modification.

(iii) Rich Library -

Has a large collection of built-in functions.

(iv) Structured language -

Support modular programming by dividing code into functions.

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Disadvantage of C.

- Not object oriented.
- No support for classes and objects.
- No memory safety.
- Limited graphics supports.

Question - Draw and explain the basic structure of a C program with the help of a simple program that prints your name.

Answer - The basic structure of a C program consists of several key components, as demonstrated by a simple program that prints a name.

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

```
int main () {
```

```
    printf ("My name is kashish sharma");
```

```
    return 0;
```

```
}
```

Question - What are C Convention? Write rules for naming identifiers and explain the use of comments in C with examples?

Answer - C Convention - C Convention encompass two

main categories: naming Convention for identifiers like variable and functions and calling Conventions for how functions receive and return parameters.

Rules for naming identifiers

Valid characters
starting characters
case sensitivity

#include - preprocessor directive
stdio.h - Standard input output header.

Explanation of the structure.

- #include <stdio.h>: This line includes the standard input/output library which provides functions like printf().
- int main(): This line is the main function. The int indicates that it returns an integer value, and main is the name of the function where the program starts.
- printf("My name is Kashish Sharma\n");: This statement uses the printf() function to display the text "My name is [---]" on the console. \n is a newline character that moves the cursor to the next line.
- return 0;: This statement indicates that the program has executed successfully.

Reserved keywords

No special or spaces Symbols

Length

Meaningful Names.

Comment in C -

Comments are not - executable statements in C code used to explain the coder's purpose logic or any important details.

Example -

// Single line Comment.

/* multiline Comment.

*/

Question - Define Identifiers and Keywords in C. Write the rules of identifiers and give ten examples of C keywords?

Answer - Identifiers in C -

An Identifier in C is the name given to entities such as variables, functions, arrays, structures etc. it is used to uniquely identify these entities in a program so that the compiler can distinguish them.

Single-line Comment -

A Single-line Comment is a section of text in a computer program that is ignored by the compiler or interpreter and is used for explanation, notes, or to temporarily disable a line of code.

Example -

```
#include <stdio.h>
int main () {
    // single line comment here
    printf ("Hi");
    // After line comment here
    return 0;
}
```

Multi-line Comment -

A multi-line comment is a section of text within source code that is ignored by the compiler or interpreter. and is used to provide explanations, documentation or to temporarily disable blocks of code.

Example -

```
#include <stdio.h>
int main () {
    /*
```

```
    This comment contains some code
    which will not be executed
    printf ("Code enclosed in comment");
    */
    printf ("Welcome to SKIT");
    return 0;
}
```


Keyword in C-

Keywords in C are the reserved words predefined by the compiler. They have a special meaning and purpose and programmers cannot use them as identifiers (variable or functions name). C has 32 standard keywords such as int, float, if, else, for, while, return etc. Keywords instruct the compiler to perform a specific operation or define a data type.

Rules of identifiers -

- 1- Identifier Not contain white space
- 2- Identifier are case sensitive in C.

Ten examples in C keywords-

int, float, char, void, if, else, for, while, return, and track.

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Question 5 - What are simple data types in C? Differentiate between int, float, char and double with examples. Write a program to display values of all these data types.

Answer - A simple data type in C is a basic predefined type provided by the C language to store simple values such as numbers and characters.

● Differentiate between int, float, char and double with example:

int (integer) - Used to store whole numbers (positive, negative, or zero) without any decimal points. Its size typically ranges from 2 to 4 bytes depending on the system architecture.

Example - `int age = 30;`

● char (character): Used to store a single character such as a letter, a digit or a symbol. It occupies 1 byte of memory and stores the ASCII value of the character.

Example - `char initial = 'J';`

float (floating-point) -

Used to store single-precision numbers

(numbers with decimal points) with single precision.

- Size - Typically 1 byte.
- Example - `char grade = 'A';`
`float pi = 3.14159`

double (Double precision floating point):

- purpose - Used to store real numbers with double precision, offering greater accuracy and wider range than.

float.

- Provides double-precision floating-point representation

