

Unit 1 Practice questions

24 August 2025

14:02

History and Features of C

1 . Who is the father of C language?

Ans . Dennis Ritchie

2 . In which year was C language developed?

Ans . 1972

3 . C was developed at which research center?

Ans . Bell Laboratories (AT & T)

4 . C is a successor of which programming language ?

Ans . B language

5 . Name two features of C language?

Ans . Fast execution , Portability

6 . Why is C called a middle language?

Ans . Because it has both low - level (hardware)and high - level User features.

7 . What are the applications of C language ?

Ans . Operating system, databases, compilers, embedded systems.

8 . Why is called a portable language?

Ans . Because C programs can run on different machines with little .

2. Structure of C program

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1 . What are the main sections of a C program?

Ans . Documentation section , Preprocessor directives , Global declaration , main() functions and Subprograms(user defined programs).

2 . What is the use of the #include directive?

Ans . It is used to include header files (like stdio.h) that contain predefined functions .

3 . Why is main()function important in C?

Ans . It is the entry point of every C program where execution starts.

4. Write the general structure of a C program.

Ans . #include <stdio.h>

```
int main() {  
    // statements  
    return 0;  
}
```

5. What is the difference between header files and source code files?

Ans . → Header files (.h) contain declarations and function prototypes.

→ Source files (.c) contain the actual code/definitions.

6. What is the role of the return 0; statement in main()?

Ans . → It tells the operating system that the program executed successfully.

3 . Constants And Variables

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1. What is a variable in C?

→ A variable is a named memory location used to store data.

2. Define constants in C.

→ Constants are fixed values that cannot be changed during execution.

3. What is the difference between a variable and a constant?

→ A variable can change its value, a constant cannot.

4. Which keyword is used to define constants in C?

→ const (or #define for symbolic constants).

5. Give an example of an integer constant.

→ 10, -25, 0

6. What is the difference between symbolic constant and literal constant?

→ Symbolic constant: defined using #define MAX 100.

→ Literal constant: directly written in the code, e.g., 100.

7. Can we change the value of a constant during execution?

→ No.

4 . Data Types And Type Conversion

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1. What are the basic data types in C?

→ int, float, char, double

2. What is the difference between int and float?

→ int stores whole numbers, float stores decimal numbers.

3. What is the size of char in C?

→ 1 byte

4. What is the range of int in C (16-bit compiler)?

→ -32,768 to +32,767

5. Define type conversion in C.

→ Changing one data type into another.

6. What is the difference between implicit and explicit type conversion?

Implicit: Automatic conversion by compiler (e.g., int to float).

Explicit: Forced conversion by programmer using type casting.

7. What is type casting? Give an example.

→ Converting one type to another manually.

Example: $(\text{float})5/2 = 2.5$

8. What is the difference between signed and unsigned integers?

Signed: Can hold both positive and negative values.

Unsigned: Only positive values.

5 . Operators And Expressions

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1. What is an operator in C?

→ A symbol that performs an operation (e.g., +, -, *).

2. List the types of operators in C.

→ Arithmetic, Relational, Logical, Bitwise, Assignment, Increment/Decrement, Conditional, Special.

3. What is the difference between = and ==?

Ans = is assignment.

== is comparison.

4. Explain the difference between pre-increment (++i) and post-increment (i++).

++i: Increases value first, then uses it.

i++: Uses value first, then increases it.

5. What is the use of the modulus (%) operator?

→ Returns remainder of division.

6. What is operator precedence in C?

→ It decides the order in which operators are evaluated.

7. What is the difference between logical AND (&&) and bitwise AND (&)?

&&: Works on conditions (true/false).

&: Works on individual bits.

8. What is an expression in C? Give an example.

→ A combination of variables, constants, and operators.

Example: $a + b * c$

6 . Input And Output Functions

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1. What is the difference between printf() and scanf()?

Ans . printf() → It is used to take output.

scanf() → It is used to take input .

2. Why do we use format specifiers in C?

Ans . Format specifiers (like %d, %f, %c) tells to compiler which type of data wants to handle.

Example: %d → integer, %f → float, %c → character.

3. What is the format specifier for float?

Ans . %f

4. Which header file is required for printf() and scanf()?

Ans . <stdio.h> (Standard Input Output header file.

5. Write the syntax of scanf() function?

Ans . scanf("format_specifier", &variable);

Example:

```
scanf("%d", &a);
```

6. How can we take a single character as input in C?

Ans . Using %c in scanf()

Example:

```
char ch;
```

```
scanf("%c", &ch);
```

7. How can we print multiple values using printf()?

Ans . printf("Sum = %d and Average = %.2f", sum, avg);

8. What happens if you don't use & in scanf()?

Ans . In programmer there was a run time error or wrong value is store because it is compulsory to put address location.
