

1) What is c language?

A) C is a general purpose programming language.

Key points in C:

*It is developed by Dennis Ritchie in 1972 at bell labs.

*Type: Procedural structure programming language.

*Fast and efficiency: Often used for performance critical appliances.

*Low -level control: Allows direct interaction with memory (using pointers)

Where in C used :

*Operating systems like parts of Linux/windows.

*Embedded systems microcontroller, IOT.

*Gaming engines.

Eg:

```
#include <stdio.h>
Int main()
{
    Printf("hellow world");
    Return 0;
}
```

2) Applications of C programming?

A) C programming has numerous applications:

*Operating system: Windows, Linux and macOS are built in C.

*Embedded system: C is used in microcontrollers, robots, and other embedded systems.

*Compilers and interpreters: Many compilers and interpreters like GCC are written in C.

*Database systems: MySQL, PostgreSQL and other database systems use C.

*Games: Many games like Doom, Quake were built using C.

*Network devices: C is used in network devices like routers and switches.

*Mobile Apps : Some mobile apps especially games use C for performance critical components.

3) What is variable?

A) A variable like a labeled box where you store a value.

You can change the value later, that's why it's called a variable in programming. Variables have name, data type and a value.

Example in C :

C code:

Int age = 25;

Here age is the variable name, int is the data type

And 25 is the value.

4) What are different data types in C programming?

A) integer types:

*Int : whole numbers

Eg 1,2,3.....

*Short : Smaller whole numbers

*Long : large whole numbers

**Floating-point types:

*Float : Decimal numbers

Eg : 3.14,0.5.....

*Double : Large decimal number

*Character type :

*Char : single character

Eg : a, z, s.....

*Void type :

*Void : no value or unknown type.

5) What is format specifier?

A) A format specifier is a symbol used in C to tell the compiler what type of data you want to input or output using function like printf() or scanf().

Common format specifier in C.

Data type	Format	Example
Int	%d or %f	printf("%d", num);
Float	%f	printf("%f", b);
Double	%lf	printf("%lf", C);
Char	%c	printf("%c", ch);
Long int	%ld	printf("%ld", x);
Unsigned int	%u	printf("%u", y);

Ex:

```
Int a = 10;
```

```
Float b = 3.14;
```

```
Char c = 'k';
```

```
Printf("%d/n", a);
```

```
Printf("%f/n", b);
```

```
Printf("%c/n", c);
```