

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 using 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 app 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 %i	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);
```