4) what are different types in C programming?

C has three main categories of data types:

i) primary (Basic) data types:

int → stores integers

float → stores decimal numbers

double → stores large decimal numbers.

char → stores a single character

ii) Derived data types:

Arrays

pointers

functions

structures

unions

iii) user-defined data types:

struct

union

enum

typedef

5) what is format specifier?

A format specifier is a symbol used in c to tell the compiler what type of data you want to print or read using printf and scanf.

* used inside printf and scanf
* specifies the type of data (int, float, char, etc)
* Begins with % symbol
* Helps the compiler interpret data correctly
* Necessary for output / input operations.

data type	format specifier
int	%d or %i
float	%f
double	%lf
char	%c
string	%s
long int	%ld
unsigned int	%u

1) what is c language?

⇒ c language is a general-purpose structed, computer programming language used to develop system software, operating systems and applications.

⇒ Developed "by Dennis Ritche" at Bell labs in 1972

⇒ It is a middle-level language

⇒ It is fast efficient and powerful

⇒ Highly portable

⇒ supports structured programming, which makes programs easy to read, debug and modify.

2) Applications of c programming?

⇒ used to develop operating systems

fg:- UNIX, LINUX, kernel

→ used in system software like compilers, interpreters and assemblers.

⇒ widely used in embedded systems.

fg:- Microcontrollers, IOT devices

⇒ used to develop device drivers and Hard ware-level programming.

⇒ used in games development for fast performance

⇒ form the base for language development c++, Java, python interpreters.

3) what is variable?

A variable is a name given to a memory location that is used to store data in a program

⇒ A variable is a storage location in memory

⇒ It holds a value that can change during program execution

⇒ Each variable has a name, a type, and a value.

⇒ It makes programs dynamic and flexible

⇒ must be declared before use.