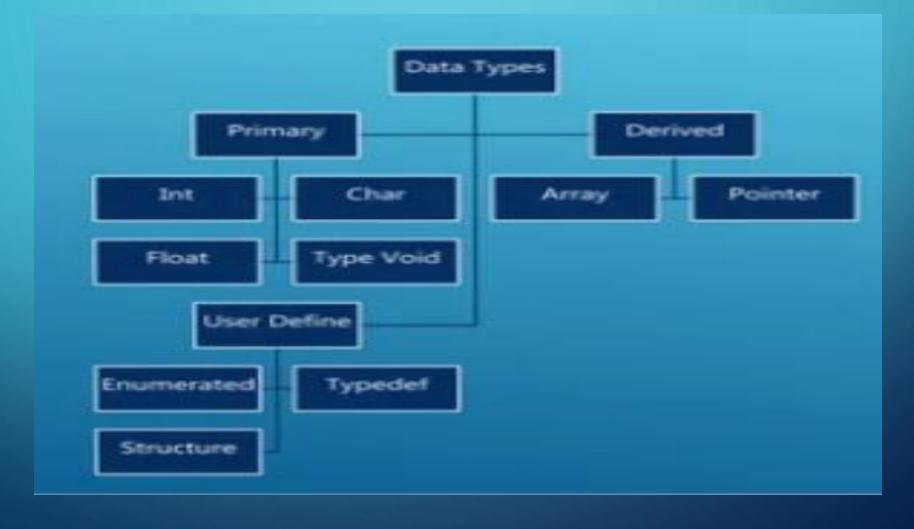# DATA TYPES IN C PROGRAMMING

DATA TYPES

- In the c programming language, data types refer to a broad system

- Used for declaring variables or functions of different types the

- Type of a variable determines. How much space it Occupies in

- Storage and how the bit pattern stored in interpreted

TYPES OF DATA TYPE

INT DATA TYPE

- Integers are whole number with a range of values are machine

- Dependent generally an integer occupies 2 bytes memory space

- And it's value range limited to 327687- 32707

Data Type	Size	Value Range	Precision
float	4 byte	1.2E-38 to 3.4E+38	6 Decimal Places
double	8 byte	2.3E-308 to 1.7E+308	15 Decimal Places
long double	10 byte	3.4E-4932 to 1.1E+4932	19 Decimal Places

CHAR DATA TYPE

- Character type variable can hold a character as there are signed

- And unsigned in(either short or long) in the there are signed and unsigned

- Chars; both accupy 1byte each but having different rangers unigned

- Characters have value between 0and 255;

- Signed character have value from _128 to 127.

FLOAT DATA TYPE

- The float data type is used to stored fractional number (real numbers) with

- 6 digits of precision ingeing point number are denoted by the keyboard float when the accuracy of the floating point number Is insufficient we can use the double to define the number the double is. Same as float but with longer

- precision and takes double space (8 bytes) than float .

Data Type	Size	Value Range	Precision
float	4 byte	1.2E-38 to 3.4E+38	6 Decimal Places
double	8 byte	2.3E-308 to 1.7E+308	15 Decimal Places
long double	10 byte	3.4E-4932 to 1.1E+4932	19 Decimal Places

TYPE VOID DATA TYPE

- The void type has No values therefore we Cannot declare it as variable

- As We in case of integer and float. The void data type is usually used

- With function to specify it's type. Like in our c programming We declared

- Main 0 as void type because it does not return any value

DERIVED DATA TYPE

- Array . An array in c language is a collection of similar data –type means

- An array can hold value of a particular data type for which it has been

- Declared . Arrays can be created from any of the c data types int

- Pointer . C pointer is a special variable that can be used to stored address of another variable.

TYPEDEF DATA TYPE

- It is used to create new data type but it is commonly used to change

- Existing data type with another name

- Syntax

- Typedef [data-type] new data type

- Example:

- Typedef int integer

- Integer roll-no ;

STRUCTURE DATA TYPE

- C structure in a collection of different data types which are grouped

- Together and each element in a c structure is called member

- Example :

- Struct student {

- Int roll no ;

- Char name [20];

- Char city [20];

- }