Macro

It is a preprocessor directive that defines a name or function like macro that can be used throughout the code.

- **It replace the name of macro to value of macro.**
- **Macro is defined using the #define preprocessor directive.**

Syntax:-

```
#define macro_name macro_value
```

Union

It is a user-defined datatype that allows us to store different datatypes in the same memory location.

- **Union keyword is used to define union.**
- **Size of union depends on the biggest member of union.**
- **Once union is defined, then declare the variables of that type**

Syntax:-

```
union union_name {
    data_type 1;
    data_type 2;
};
```

Structure

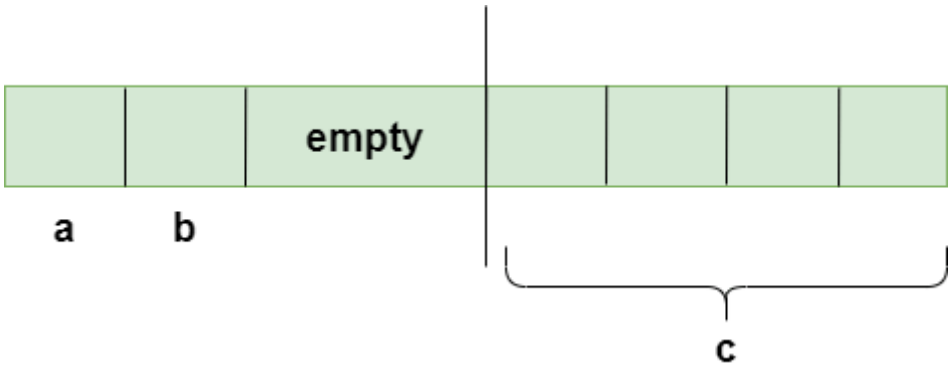
Structure is used when we want to allow different types of datatype into a single name.

Syntax:-

```
structure structure_name {
    data_type 1;
    data_type 2;
};
```

- **Once union is defined, then declare the variables of that type**

Structure padding:-



Struct	Union
The struct keyword is used to define a structure.	The union keyword is used to define union.
When the variables are declared in a structure, the compiler allocates memory to each variables member. The size of a structure is equal or greater to the sum of the sizes of each data member.	When the variable is declared in the union, the compiler allocates memory to the largest size variable member. The size of a union is equal to the size of its largest data member size.
Each variable member occupied a unique memory space.	Variables members share the memory space of the largest size variable.
Changing the value of a member will not affect other variables members.	Changing the value of one member will also affect other variables members.
Each variable member will be assessed at a time.	Only one variable member will be assessed at a time.
We can initialize multiple variables of a structure at a time.	In union, only the first data member can be initialized.
All variable members store some value at any point in the program.	Exactly only one data member stores a value at any particular instance in the program.
The structure allows initializing multiple variable members at once.	Union allows initializing only one variable member at once.
It is used to store different data type values.	It is used for storing one at a time from different data type values.
It allows accessing and retrieving any data member at a time.	It allows accessing and retrieving any one data member at a time.