# Practical No. 15

**Aim:** Write and execute one simple program each using structure and union

**Theory:**

## Structure:

Structure is a user-defined data type in C which allows us to combine data of different types together. Structure helps to construct a complex data type which is more meaningful It is somewhat similar to an Array, but an array holds data of similar type only. But structure on the other hand, can store data of any type.

Syntax:

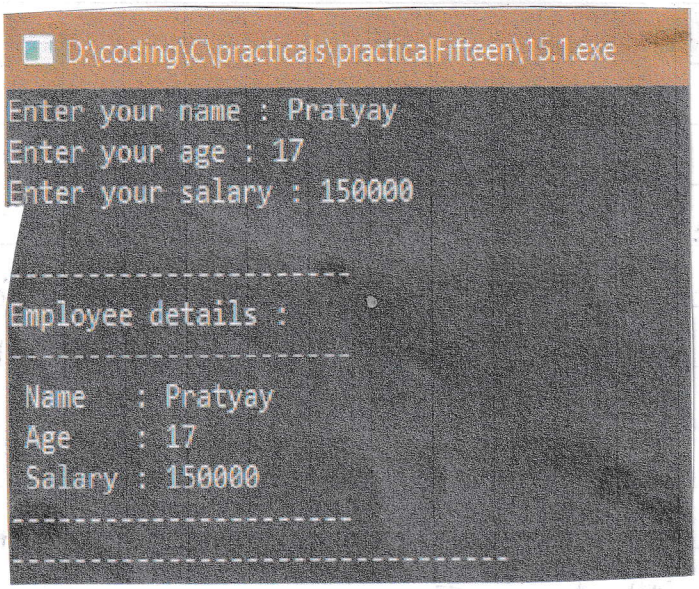
```
struct [structure_tag]
{
    member variable 1;
    member variable 2;
    .....
} [structure_variables];
```

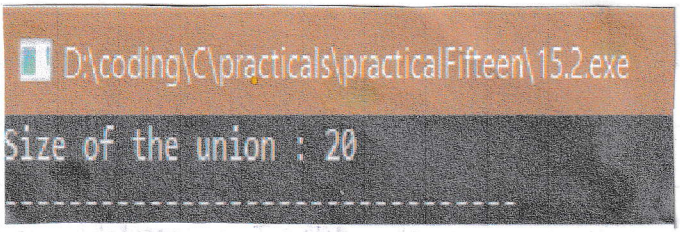
## Union:

A union is a special data type available in C that allows to store different data types in the same memory location. You can define a union with many members, but only one member can contain a value at any given time. Unions provide ~~a~~ an efficient way of using the same memory location for multipurpose.

Syntax:

```
union [union tag] {
    member definition;
    member definition;
    ......
```


D:\coding\C\practicals\practicalFifteen\15.1.exe
Enter your name : Pratyay
Enter your age : 17
Enter your salary : 150000
----------
Employee details :
----------
Name : Pratyay
Age : 17
Salary : 150000
----------
--------------------------------


D:\coding\C\practicals\practicalFifteen\15.2.exe
Size of the union : 20
--------------------------------

} [union variables];

Code :

Structure :

```
#include <stdio.h>
int main(){

struct employee{
    char name[20];
    int age;
    int salary;
} e1,e2;

printf("Enter your name : ");
scanf("%s",e1.name);
printf("Enter your age :");
scanf("%d",&e1.age);
printf("Enter your salary : ");
scanf("%d",&e1.salary);

printf("\n ---- \n Employee details \n ---- \n Name : %s \n Age :
%d \n Salary : %d \n", e1.name, e1.age, e1.salary);

}
```

Union :

```
#include <stdio.h>
int main(){

    union example {
     int age;
     float weight;
     char a[20];
     };

     printf("Size of the union : %d", sizeof(example));
}
```

Conclusion :

Hence, I wrote and executed one single program each using structure and union.