Structure

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Agenda

- Structure Introduction
- Primitive and Non primitive data type
- defining structure
- declaring structure variable
- structure variable initialization during declaration
- Structure variable initialization after declaration
- Data Hiding

Structure Introduction

- Structure can be a collection of dissimilar elements.
- Structure is a group of variables.
- Defining structure is creating custom data type.
- **struct** is a keyword.

Primitive and Non primitive data type

1. int
2. float
3. double
4. char

Primitive data type

1. Book
2. Student
3. Complex
4. Employee

1. Custom data type
2. Non primitive data type
3. User define data type

Defining structure

```
struct Book
{
    int Bookid;
    char BookName[20];
    float BookPrice;
};
```

- Global vs local definition

Declaring structure variable

```
struct Book
{
    int Bookid;
    char BookName[20];
    float BookPrice;
} b1, b2;
```

```
void f1()
{
    Book b3,b4;
    --------
    --------

}
```

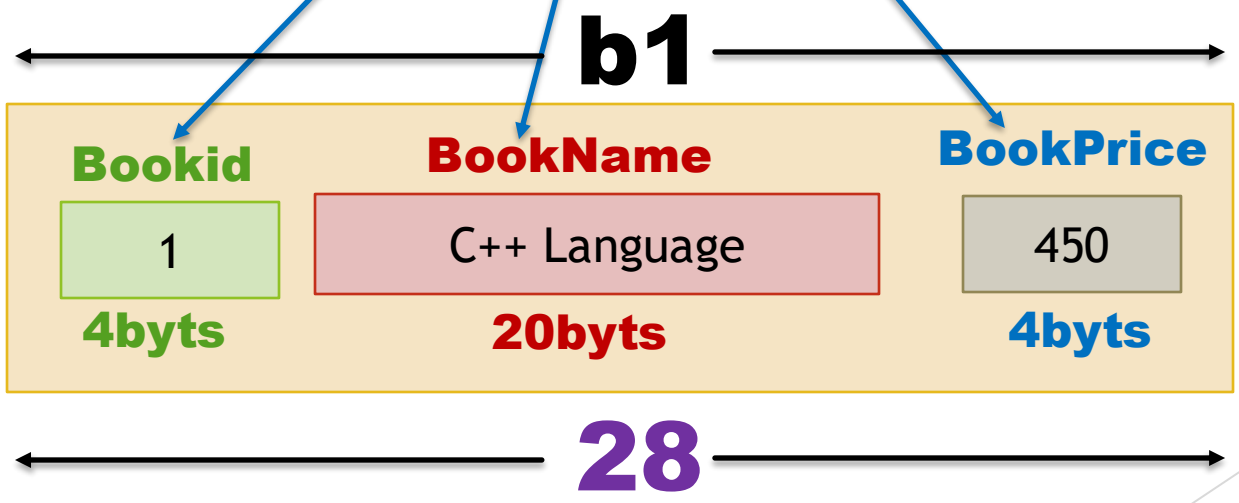
initialization during declaration

Structure variable

```
void f1()
{
    Book b1 = { 1, “C++ Language”, 450.0 };
    --------
    --------
}
```

Data type

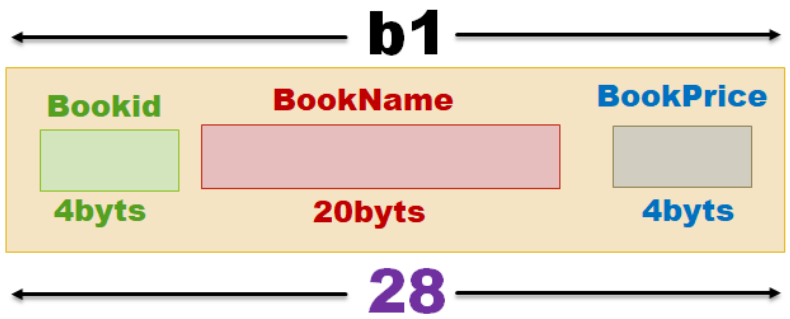
Member variable



initialization after declaration

Syntax → StructureVariable.membervariable

```
void f1()
{
    Book b1;
    b1.Bookid = 2;
    strcpy(b1.BookName,"C");
    b1.BookPrice = 450.0F;
    --------
    --------
}
```



- **Structure can have functions too the members.**
- **Use of access specifiers for the members of structure.**

Encapsulation

- An act of combining properties and methods related to the same entity is known as Encapsulation.

Data Hiding

- Access specifiers
  - private
  - protected
  - public