
# Problem Solving With C - UE24CS151B

## Structures in C

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## Structures in C



- Member-wise copy
- typedef
- Nested structures
- Passing structure to functions

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## Member-wise copy

- Structures of same type are assignment compatible.
- When you assign one structure variable to another structure variable of same type, member- wise copy happens.
- All structure members with values (if initialized) are copied
- Both copies does not point to the same memory location.
- Any change in one copy will not be reflected in the other.
- Coding examples

## typedef

- Allows users to provide alternative names for the primitive (e.g., int, float etc) and user-defined (e.g struct) data types.
- Only adds a new name for some existing data type but does not create a new type.
- Syntax typedef <existing_datatype> <new_name>;

Example:

```
//without typedef
int a, b ;

//with typedef
typedef int integer;
integer a, b ;
```

- Coding examples wrt structures

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## Nested Structures

- Structure written inside another structure is called as nesting of two structures.
- Two ways

**WAY 1 : Declare two separate structures and using dependent structure inside the main structure as a member**

**WAY 2 : Declare embedded structures**

- Coding examples

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## Passing structure to a function

- Parameter passing is always by value.
- Argument is copied to parameter and modifications inside the function body applies to parameter only.
- If you want to change the argument, pass a pointer to a structure(l-value) as an argument.
- C code demonstration : To read and display a structure


# THANK YOU

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