

## C - programming :

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### Structure union :

→ structure is user defined data type that group related variable of different data type.

```
struct course {
    int id;
    char title [40];
    float hour;
}
```

### Union ⇒

→ A union allows to store different data type in the same memory location.

→ union declaration will be like below union.

```
union var {
    int int - num;
    float fl - num;
    char str [20];
}
```

## memory management:

When you declare a variable using a basic data type, it automatically allocates space for this variable in a part of memory called stack.

```
int x;
```

```
printf("%d, size of (x);", sizeof(x)); // output: 4
```

Dynamic memory allocation is the process of allocating & freeing memory as needed.

`malloc()` function allocates a specified number of contiguous bytes in a memory.

```
#include <stdlib.h>
```

```
#include <stdlib.h>
```

```
/* a block of 10 int */
```

```
p = malloc(10 * sizeof(int));
```

```
*p = 50;
```

```
}
```