Definition & Declaration

Definition is the place where variable is created (allocated storage).

Declaration is a place where nature (type) of variable is stated, but no storage is allocated.

Initialization means assigning a value to the variable.

Variables can be declared many times, but defined only once. Memory space is not allocated for a variable while declaration. It happens only on variable definition.

Variable declaration
Syntax
data_type variable_name;

example
int a, b, c;
char flag;

Variable initialization

Syntax

```
data-type variable_name = value;
```

example

```
int a = 50;
char flag = 't';
```

Initialization means assigning a value to the variable. If variables are not explicitly initialised, then external and static variables are initialised to zero; pointers (see ch 8) are initialised to NULL, auto and register variables have undefined values.

```
int x = 1;
char quote = '"';
long day = 10 * 20;
int len = strlen(s);
```

external and static
initialisation done once only.

auto and register
initialisation done each time block is entered.

external and static variables cannot be initialised with a value that is not known until run-time; the initialiser must be a constant expression.