



C fundamentals

Training Dept

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- Type specifiers
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Basic Data Types

Char :

- Representation of different real languages in computers.

Int :

- Signal number(signum).

Double :

- Spacecraft Projection
- Temperature sensors.

Type conversion

Implicit type Casting :

- To make smaller data types compatible with ALU operands.
- For performing arithmetic operations.

Explicit Type casting :

- To read stream of bytes in networking
- Data collected by NIC cards.
- Malloc

Storage class specifiers

Register :

- Spinlock Variable

Automatic :

- Compiler design

Static :

- Driver module

Extern :

- Communication in modular kernel, no IPC needed

Type qualifiers

Volatile :

- Processor state.
- Device driver.

Constant :

- Input string to string functions.

Type specifiers

Short :

- Code, data and stack segment registers(16 bit).

Long :

- Counter

Signed :

- Return values (Success or Error Indication).

Unsigned :

- Process ID.
- File descriptor.
- User id and group id.
- Size of a file.

Enum

- Task_state
- Mutex types
- PCI bus speed

Operators

Bitwise Operator :

- Interrupt
- To Change properties of a File, like make it hidden.
- Networking – For masking netid or hostid.

Logical Operator :

- Artificial Intelligence.
- Setting Sub-net mask.

Relational Operator :

- Temperature Sensing device.

Post-fix and Prefix operator :

- Save RAM size in Embedded System.

Bit fields

- Flag field in IP header
- PSW register.

Pointer

- Resource loading
- Memory management
- Call by reference.

Function pointer:

- Interrupt handling.
- Device drivers.
- Calculator.

Functions

- Libraries.
- Device drivers.
- Calculator.

Data structure

Arrays :

- Hash tables
- Stack
- Queue
- Page table

Structures :

- Files
- Process
- Memory
- Device

Unions :

- To assign inode for particular devices
- Protocol field in IP header

Contd..

Linked list :

- Dynamic memory block management.
- Process list
- Free memory list.
- The pixels in a drawing created onscreen by the user at run-time.

Stack :

- Internet browsing
- Undo operation

Contd..

Queue:

- Ready queue
- Wait queue
- Message queue

Trees :

- Database management.
- File system structure.
- Process relationship structures.



Thank You