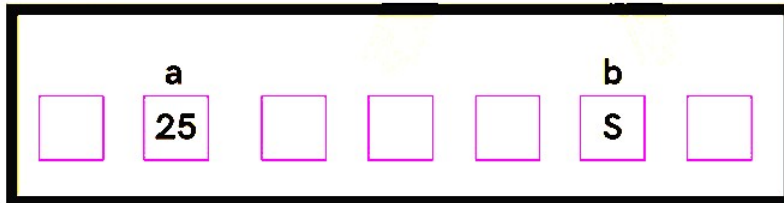# Variables

Variable is the name of a memory location which stores some data.

Memory



# Variables

## Rules

a. Variables are case sensitive

b. 1st character is alphabet or '_'
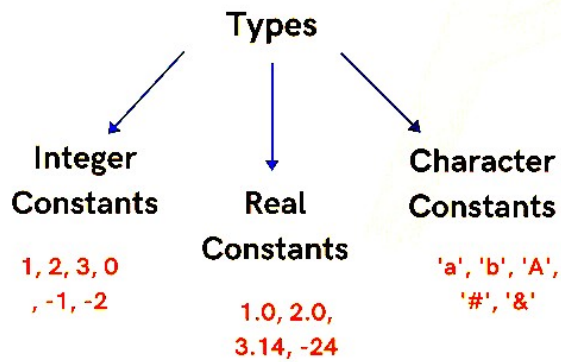
c. no comma/blank space

d. No other symbol other than '_'

# Variables
## Data Types

| Data type | Size in bytes |
|---|---|
| Char or signed char | 1 |
| Unsigned char | 1 |
| int or signed int | 2 |
| Unsigned int | 2 |
| Short int or Unsigned short int | 2 |
| Signed short int | 2 |
| Long int or Signed long int | 4 |
| Unsigned long int | 4 |
| float | 4 |
| double | 8 |
| Long double | 10 |

# Constants

**Values that don't change(fixed)**

Types

Integer
Constants

1, 2, 3, 0
, -1, -2

Real
Constants

1.0, 2.0,
3.14, -24

Character
Constants

'a', 'b', 'A',
'#', '&'

---

# Keywords

**Reserved words that have special meaning to the compiler**

**32 Keywords** in C

---

# Keywords

| auto | double | int | struct |
|------|--------|-----|--------|
| break | else | long | switch |
| case | enum | register | typedef |
| char | extern | return | union |
| continue | for | signed | void |
| do | if | static | while |
| default | goto | sizeof | volatile |
| const | float | short | unsigned |

# Program Structure

```c
#include<stdio.h>

int main() {
    printf("Hello World");
    return 0;
}
```

---

# Comments

**Lines that are not part of program**

Single Line          Multiple Line

//                    /*
                      */

---

# Output

```c
printf(" Hello World ");
```

new line
```c
printf(" kuch bhi \n");
```

# Output

**CASES**

**1. integers**
printf(" age is %d ", age);

**2. real numbers**
printf(" value of pi is %f ", pi);

**3. characters**
printf(" star looks like this %c ", star);

# Input

scanf(" %d ", &age);

# Compilation

A computer program that translates C code
into machine code



Hello.c          C Compiler          a.exe (windows)
                                     a.out (linux & mac)