

## C Programming Notes by CodeWithHarry

### What is Programming?

Computer Programming is a medium for us to communicate with computers. Just like we use 'Hindi' or 'English' to communicate with each other, programming is a way for us to deliver our instructions to the computer.

### What is C?

C is a programming language.

C is one of the oldest and finest programming languages.

C was developed by Dennis Ritchie at AT & T's Bell Labs, USA in 1972.

### Uses of C

C language is used to program a wide variety of systems. Some of the uses of C are as follows:

- 1> Major parts of Windows, Linux and other operating systems are written in C.
- 2> C is used to write driver programs for devices like Tablets, printers etc.
- 3> C language is used to program embedded systems where programs need to run faster in limited memory (Microwave, cameras etc.)
- 4> C is used to develop games, an area where latency is very important. i.e. Computer has to react quickly on user input.

## Chapter 1: Variables, Constants & Keywords

### Variables

A variable is a container which stores a 'value'. In Kitchen, we have containers storing Rice, Dal, Sugar etc. Similar to that variables in C stores value of a constant. Example:

```
a = 3;           // a is assigned "3"  
b = 4.7;        // b is assigned "4.7"  
c = 'A';        // c is assigned 'A'
```

### Rules for naming variables in C

- 1> First character must be an alphabet or underscore (\_)
- 2> No commas, blanks allowed.
- 3> No special symbol other than ( \_ ) allowed.
- 4> Variable names are case sensitive.

We must create meaningful variable names in our programs. This enhances readability of our programs.

### Constants

An entity whose value doesn't change is called as a constant.

A variable is an entity whose value can be changed.



## Types of constants

Primarily, there are three types of constants:

- 1> Integer Constant → -1, 6, 7, 9
- 2> Real Constant → -322.1, 2.5, 7.0
- 3> Character Constant → 'a', '\$', '@' (Must be enclosed within single inverted commas)

## Keywords

These are reserved words, whose meaning is already known to the compiler. There are 32 keywords available in C.

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

## Our First C Program

```
#include <stdio.h>
```

```
int main() {
    printf("Hello, I am learning C with Harry");
    return 0;
}
```

File: first.c