#2 Identifiers in C Language

By Saurabh Shukla | 2017©mysirg.com

Begin Learning C

Computer languages are like natural languages. Natural languages like Hindi, English, and German are used for the communication between human beings. Computer languages are used to prepare a script to perform actions by the machines.

Language is just a medium to express your thoughts. When we want to say something to a machine to do some task, we just trigger the script (program) by clicking on some file or clicking on some button or may be hitting some key on the keyboard. This script or program is prepared in some computer programming language.

Developing program is the job of programmer. You need to learn language to become a programmer.

Learning steps are very similar to the process you must have gone through at early stages of your schooling. When you were a kid, you were supposed to learn alphabets in English. *Swar* and *vyanjan* in Hindi. In the same way you have to begin learning C language.

Following are the steps

1. Learn basic letters used in C language
2. Learn Identifiers
3. Learn Instructions
4. Develop programs
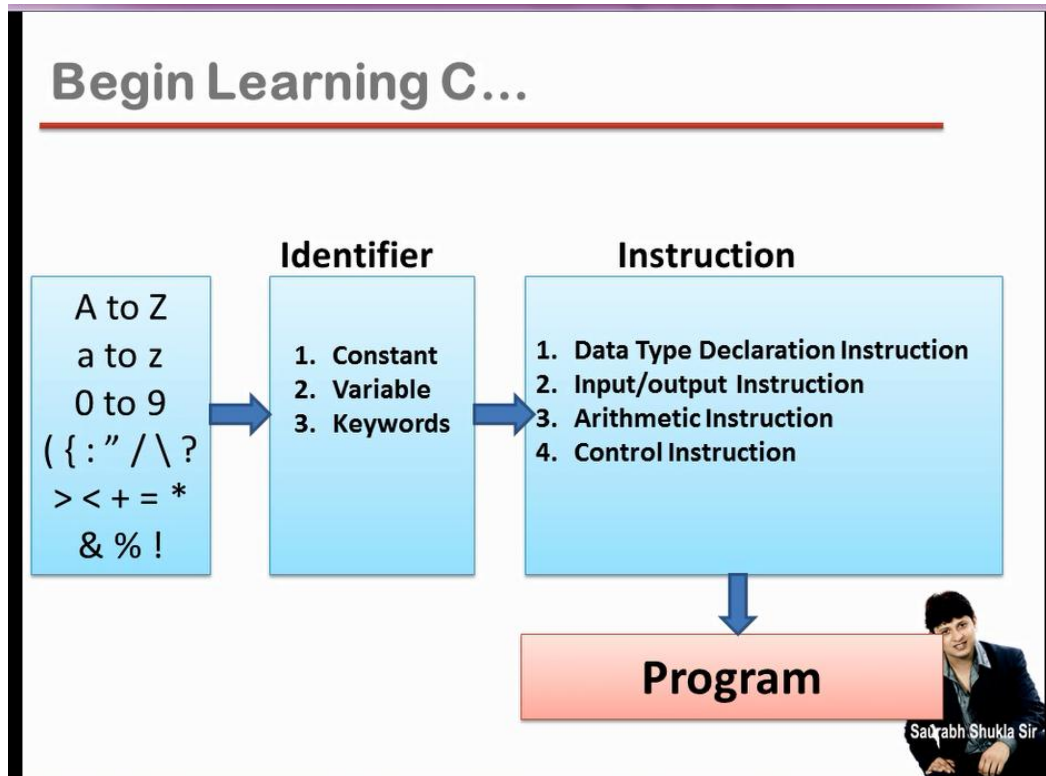
You are already familiar with the basic letters as you have seen them on keyboard. So we should start our journey of learning from identifier

Identifier

Smallest identifying unit in the program is known as identifier. In English you call it a word. In programming language it is known as identifier. Identifiers can be categorized as constants, variables, keywords, macros, functions, etc.

As of now we are only going to see constant, variable and keywords. Rest of the identifiers will be covered in later chapters.

Constant

Any information is constant. Every program you make is to process data. For example, program to add two numbers or calculate simple interest, etc. You need some data to process. In addition of two numbers program, you need two numbers to perform task. Similarly, in simple interest program you need principle, time and rate of interest information, and then only you can process it. In a nut shell, this data is called constant.

Data=Information=Constant

Information or constant can be classified which gives us ease of handling data in our program. Number is a constant, your name is also constant but you cannot perform multiplication between

two names. So data can be categorized on the basis of kind of operations we can perform on it and on internal binary representation.

In c language constants are classified as:

- Primary constants
- Secondary constants

Primary constants are further categorized as

- Integer
- Real
- Character

Secondary Constants are categorized as

- Array
- String
- Pointers
- Structure
- Union
- Enumerator

Numbers without decimal points are known as integers.

Numbers with decimal point are known as real constants.

Any symbol in single quotes is known as character constant.

Variables

When you run any program, it consumes memory in RAM till its execution in process. To perform a task program can use this memory for various reasons. One of the important reasons is to store needful data, which is going to be used in processing. In addition of two numbers program, program needs to preserve two data until addition task is over. You need to reserve memory blocks to store these data, and these memory blocks should be named for future reference in the program.

It depends on the program, how many memory blocks are required to handle data. In addition of two numbers, three memory spaces should be reserved, two blocks for two numbers that to be added and third block is to store result.

These memory blocks are variables. They have names for identification.
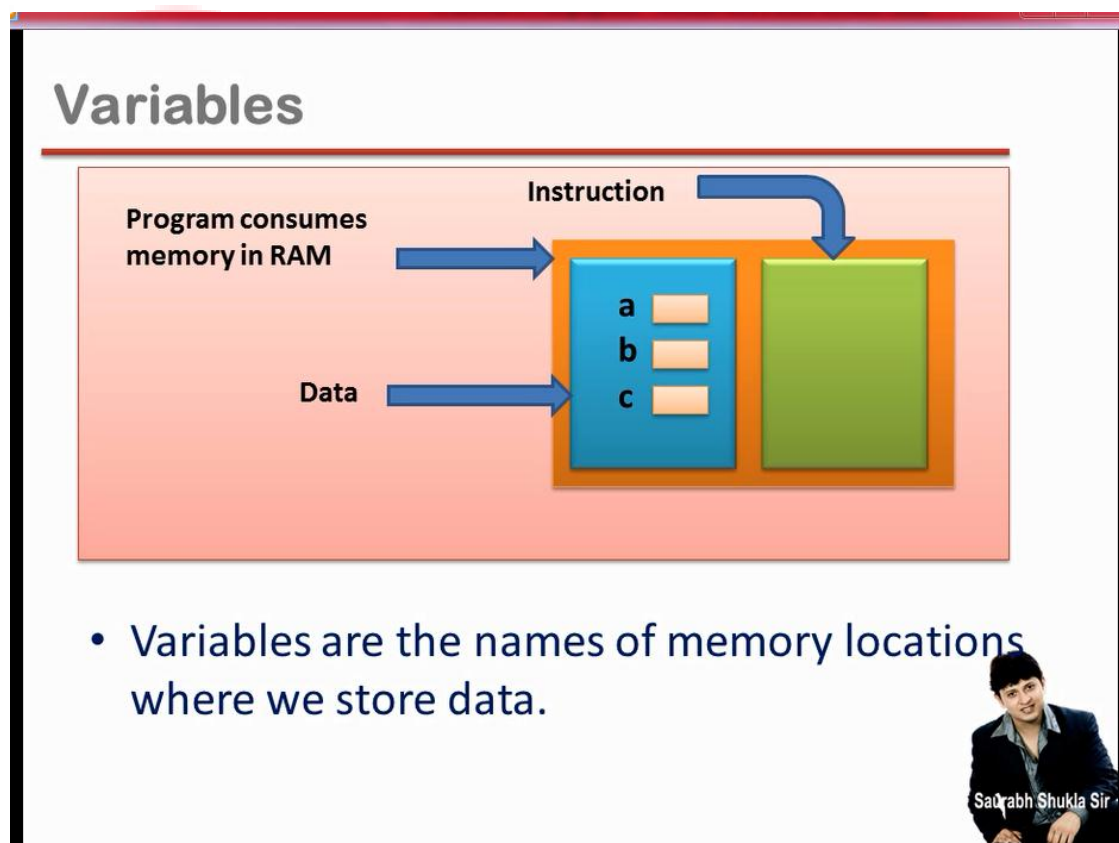
In the above diagram, a,b,c are variables.

Variable name is any combination of alphabet, digit and underscore. No other symbol is permitted.

Valid variable name cannot start with digit.

Keywords

Keywords are predefined words; their meaning is already known to compiler. Every word you are using in the program must have known to compiler. If the meaning is not known to compiler then it will yield an error. To avoid error, you have to declare such words to compiler by declaration statements. Keywords are the words, whose meaning is already defined; you can directly use them for specific reason.

There are 32 keywords according to the ANSI standard, but sometimes compiler may support additional keywords too.

List of keywords

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

Saurabh Shukla Sir

We will see these keywords wherever required in the later chapters.

Remember

- Syntax means grammer

References

YouTube video links

- Lecture 2 Identifiers in C language
    - https://www.youtube.com/watch?v=4RvPihzs6uw&feature=youtu.be&list=PL7ersPsTyYt2Q-SqZxTA1D-melSfqBRMW

Exercise

1. In which category following data falls (Integer, Character, Real, String, Array, Structure, etc)
    a. Mobile number
    b. Name of a city
    c. Rate of interest
    d. Number of family members
    e. Percentage
    f. Your name
    g. Password
    h. Email id
    i. Grade
2. Tick the correct variable name
    a. A1
    b. X-2
    c. abc@12
    d. 2f
    e. M_23_a
    f. Aa
    g. W$
    h. Emp id
    i. FLOAT
    j. float