Keywords

- **All keyword have a fix meaning and these meaning can’t be changed.**
- **All keyword must be written in lower case.**
- **Some compiler may use additional keyword that must be identified from ‘C ‘ manual.**
- **break, else, long , switch, int , float , char etc.**

Constants

➢Constant in ‘C’ reffered to fix Value that don’t change during the execution of program.C support several types of constants as given below:

- ❖Numeric Constant
- ❖Char Constant
- ❖Int Constant
- ❖Real Constant
- ❖Single Char Constant
- ❖String Constant

Character Constants

- A character constant is a single character that is enclosed within single quotes.
- Every character constant has a unique integer value associated with it.
- If the machine is using ASCII then the character ‘G’ represents integer value 71 and character ‘5’ represents value 53.
- Some ASCII values are:

A-Z	(65-90)	0-9	(48 - 57)
a-z	(97-122)		

Variable

- A variable is a data name that may be used to store a data value.
- A variable may take different values at different times during execution.
- Variable names may consist of letters,digit and underscore character .subject to the following condition:
- They must begin with letters some system permits, underscore as the first character.
- Upper and Lower case are significant. That is variable total.

Example:”Total ” is not the same as ‘total’ and ‘TOTAL’.

- It should not be a keyword
- Whitespace is not allowed.
- John Value T_raise etc.

DATA TYPES

- ANSI ‘C’ supports three classes of data types:

1-Primary data types(or fundamental).
2-Derived data types.
3-User-defined data types.

PRIMARY TYPE DECLERATION:

- A variable can be used to store a value of any data types.
- That is the name has nothing to do with its type.
- The syntax for declearing a variable is as follow:

  data_type V1,V2,…….Vn;

  V1,V2…….Vn are the names of variables are seprated by comma,s.
- A decleration statement must be end with semicolon.

EX:int count;

Int number, total;

DERIVED DATA TYPES

- The derived data types such as array,function,structure and pointers are discussed.
- All c compilers support five fndamental data types:

1-integer(int)
2-character(char)
3-floating point(float)
4-double-precesion floating point(double)
5-void

- Many of them extended data types such as long int and long double

INTEGER TYPES

- Integer are whole numbers wih a range of value supported by a particular machine.
- The size of an integer that can be stored depend on the computer.
- It use 16 bit(2 byte) word length.
- Limited range of integer is -32768 to 32767.
- ‘C’ has three classes of integer storage namely short int,int,and long int.
- ANSI ‘C’ defines these types so that they can be organized from smallest to the largest.

FLOATING POINT TYPE

- Floating point numbers are stored in 32 bit(4 byte).
- Floating point number are defined in ‘C’ by the keyword float.
- When the accuracy provided b a float number is not sufficent than type doublecan be used the define number.
- A double data type number uses 64 bit (8 byte).
- To extend the precesion we use long double.
- Long double use the 80 bit(10 byte).

CHARACTER TYPE

- A single character can be defined as a character(char) type data.
- Character are usually stored 8 bit(1 byte).
- The qalifier signed are unsigned may be explicity applied to char.
- Unsigned char have value b/w 0 to 255.
- Signed char values from -128 to 127.

VOID TYPE

- The void type has no values.
- This is usually used to specify the type of function.
- This function said to be void.
- It does not return an value to the calling function.
- It can also play the role of generic type means that it can represnet an of the other standard type.

USER DEFINE TYPES DECLARATION

- ‘C’ supports a feature known as “type definition”.
- It allows user to define an identifier that would represent an existing data type.
- The user defined data type can later be used to declear variable.
- It takes the general form-

    typedef type identifier;

Where type refers to an existing data type and identifier new name given o the data type.

- The mian advantage of typedef is that we can creae meaningfull data type names for increasing the readability of program.
- Another user defined enumarted data type.