ELEMENTS OF C

As every Language has some basic Grammatical Rules and Elements Similarly C Language has some elements and rules for building a program.

Character Set :- Communicate with people they use languages like HINDI, ENGLISH ETC. which is constructed and defined by some characters, words etc. Similarly in C language we have various characters to communicate.

Types	Character Set
Lower Case	a-z
Upper Case	A-Z
Digits	0-9
Special Characters	@ # ! $ % ^ * &
White Space	Space, Tab and new lines.

Keywords :- (i) They are those elements of C Language whose meaning has already been explained and has fixed task.

(ii) Keyword cannot be used to assign a new meaning to the keywords.

*32 keywords in C Language

auto	do	goto	Signed	unsigned	break	double
if	Sizeof	void	Case	else	int	Static
Volatile	Char	enum	long	Struct	while	Const
extern	register	Switch	Continue	Float	return	typeodef
default	for	Short	Union			

DataTypes:- In every language we have to perform some operations means some task on some values of variables.

Eg:- Like 'Ramesh' here Ramesh is a set of alphabets or characters

Like '290' here 290 is a numerical value

So here Ramesh and 290 are of different types and they are allotted to some variables.

So to recognized each variables we have to specify their types and these types are called 'DataTypes' of that variable. So the real example is

```
int a = 6;
```

- `int` → Datatype → integer type of Data type.
- `a` → Variable
- `=` → assignment operator.
- `6` → Value

So in this a is variable of int datatype which is assigned with value 6

* Every Datatype in C Language has Storage Size and Value Ranges.

Data Types	Storage Size	Value Range
Char	1 byte	a-z, A-Z, Special characte (-128 to 127)
Unsigned Char	1 byte	" " (0 to 255)
int	2-4 bytes	-32768 to 32767 or -2147483648 to 2147483647
unsigned int	2-4 bytes	0 to 65535 or 0 to 4294967295
short	2 bytes	-32768 to 32767
unsigned short	2 bytes	0 to 65535
long	4 bytes	-2147483648 to 2147483647
unsigned long	4 bytes	0 to 4294967295
float	4 bytes	1.2E-38 to 3.4E+38 6 decimal place
double	8 bytes	2.3E-308 to 1.7E+308 15 decimal place
long double	10 bytes	3.4E-4932 to 1.1E+4932 19 decimal place