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Date - 24/10/2016

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Ans 2) Keywords are the set of characters in C language meaning & function of which remains same throughout the language. In C language there are total of 32 keywords which are categorised as follows:

1) Data Type (Primary)

a) Short
b) int
c) long
d) Signed
e) unSigned
f) float
g) double
h) char
I) void
J) return

2) Conditional Control

i) Decision making
a) if
b) else
c) goto

ii) Branching
a) switch
b) case
c) break
d) default

3) Looping Control

a) do
b) while
c) for
d) continue

4) Storage class

a) auto
b) extern
c) register
d) static

5) User-defined datatype

a) Struct
b) Enum
c) union.

6) Miscellaneous datatype

a) typedef
b) Sizeof
c) volatile
d) Const

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Ans3) Data types are essential when we define a variable because when a variable is defined we must mention it along with the data type so it is possible to allocate the memory space.

Data type is classified into 3 types.

(i) Primary or Fundamental data types
(ii) user defined data type
(iii) empty data type

i) Primary or Fundamental data type :- Primary data types are those which are inbuilt in the system and with the help of these data types we can create other data types. It is further classified as.

a) Integer

data type	range	size	Format Specifier
i) signed short int	-127 to +128	2 Bytes	%d
ii) unsigned short int	0 to 255	2 Bytes	%u
iii) signed int	-32768 to +32767	2 Bytes	%d
iv) unsigned int	0 to 65535	2 Bytes	%u
v) signed long int	-2147483648 to +2147483647	4 Bytes	%ld
vi) unsigned long int	0 to 4294967295	4 Bytes.	%lu

b) Floating

data type	range	Size	Format Specifier
i) Float	-3.4×10^{38} to $+3.4 \times 10^{38}$	4 Bytes	%f
ii) long	-1.7×10^{308} to $+1.7 \times 10^{308}$	8 Bytes	%lf
iii) doub6	-1.7×10^{4932} to $+1.7 \times 10^{4932}$	10 Bytes	%Lf

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c) Character

data type	range	Size	Format specifier
i) signed char	-128 to +127	1 Bytes	%c
ii) unsigned char	0 to 255	1 Bytes	%c
iii) String	—	—	%s

Ex:- char "Area"
i.e, Size = 4 Bytes

ii) User-defined data type :- This type of data types are created from the primary data types.
ex:- Structure, array, enum etc.

Like: In Structure,

```
Struct area ;
{
int length, breadth ;
float a ;
} ;
```

iii) Empty data types :- This are the void data types which cannot accept or pass any kind of value.

ex:- Void

Ans 4) Constants are the fixed values which are stored in variables and are not be altered or changed.

There are Primarily two types of Constant.

(i) Primary Constants
(ii) Secondary Constants.

(i) Primary Constants :- The Constants which contains one one data type are called Primary Constants.

They are further classified as,

a) Real Constants :- All the numbers from real number system are real constants.

Example :- 52, 235.23, -10 etc.

b) Character Constants :- This type of constants contains only a single character written within single quotes. The ASCII Characters are all Character Constants.

Examples :- 'A', 'a', '2', '2' etc.

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c) String Constants :- This type of constants are the combinations of characters written within double quotes.
Examples :- "CUIT", "Area of triangle" e.t.c.

d) Backslash Character Constants :- In C language there are different types of Backslash charctr constants which are used in output functions.

Example :- \n — It is used for next line.
\t — It is used for horizontal tab
\0 — It is null character.

(ii) Secondary constants :- Secondary constants contains more than one data types.

Examples :- Structures, Arrays, enum, union e.t.c

Ans 5) Variables are the names given to the Entities which are stored in the location in memory or CPU register of a Computer which can store fixed constant or value. The variable can take different values at different Places during the Program execution.

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Following are rules to declaring a variable.

(i) A variable name can contain alphabets (both upper case and lower case), digits and special character (_) i.e, underscore is only used.
ex :- area, e_name e.t.c.

(ii) A variable name must begin with a letter, however some Compiler Permits underscore (_) as a first letter.
ex :- length, money e.t.c.

iii) There are almost 40 Character in a variable name.

iv) The variable name is case-sensitive (ie, Country and country are not same).

v) The variable name should not be any of the 32 Keywords. (ex :- int cannot be used as variable name).

vi) There must not be any blank spaces between the name.
Example :- emp name is invalid.
empname is valid.

Ans:) a) BASIC :- Beignners All-Purpose Symbolic Instruction Code.

b) COBOL :- Common Buisness oriented Language.

c) Fortran :- Formulae Translation.

d) ALGOL :- Algorithmic Language.

Applications

a) BASIC :- It is used for Graphical applications.

b) COBOL :- It is used Buisness Purpose.

c) Fortran :- It is used for the calculation of scientific formulaes.

d) LOGO :- It means Logical Diagram and Designing. It is used for small designing Purpose.