

# Section 2

Q.1

Ans: In computer programming, an enumerated type (also called enumeration, enum, or factor in the R programming language and a categorical variable in static)

is a data type consisting of a set of named values called elements, members, enumerals, or enumerators of the type. The enumerator named usual identifiers that behave as constants in the language.

An enumerated can be seen as a degenerate tagged union of unit type.

A variable that has been declared as having an enumerated type can be assigned any of the enumerator as a value.

In other words, an enumerated has values that are different from each other, and that can be compared and assigned, but are not specified by

the programmer as having any particular concrete representation in the computer memory; compilers and interpreters can

represent them arbitrarily.

For example, the four suits in a deck of playing card may be four enumerated named club, Diamond, Heart and spade, belonging to an enumerated type named suits.

if a variable  $v$  is declared any of those four values to it.

Although the enumerators are usually distinct some languages may allow the same

enumerator to be listed twice in the type's declaration.

The name of enumerators need not be semantically complete or compatible in any sense.

For example, an enumerator Red, green, zebra, missing and become ordering of its members;

arises from the compiler representing enumerator as integers.

some enumerator types may be built into

the language.

The boolean type, for example often a pre defined of the value False and true.

Many languages allow users to define new enumerated type.

values and variables of an enumerated type are usually implemented as fixed length bit string, often in a format and size compatible with some integer type.

Some languages especially system programming languages,

allow the user to specify the bit combination to be used for each enumerator.

in type theory enumerated types are often

regarded as tagged as tagged

union of unit type. since such types are of the form of the enumerators.

Enumerated types can also prevent a programmer from writing illogical code such as performing mathematical value of the enumerator

A given ~~enum~~ enumerated type is thus a concrete implementation of this notion,

when order is meaningful and/or ~~used~~ used for comparison, then an enumerated type become an ordinal type

1. **CONVENTIONS:** Programming language tend to have their own often times multiple, Programming styles and follow either,

while lower case and others are seen less frequently

II **Database:** some database support enumerated type directly.

My SQL provides an enumerated type with the allowable values specified as string when as numeric indic with the empty string stored as 0. the first string value stored as 1 the second string value stored as 2 etc.

Values can be numeric indexes or string values

III XML schema

4 - see also

5 - References

6 - external links