



PÉCSI TUDOMÁNYEGYETEM
TERMÉSZETTUDOMÁNYI KAR

"Methodology of Programming I"

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PTE

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Abstraction:

Data abstraction is the process of hiding certain details and showing only essential information to the user.

Abstraction can be achieved with either abstract classes or interfaces.

We use Abstraction when we want to create a superclass that only defines a generalization form that will be shared by all of its subclasses, leaving it to each subclass to fill in the details.

The **abstract** keyword is a non-access modifier, used for classes and methods.

An abstract method doesn't have an implementation and abstract methods can only take place in abstract classes.

An abstract class can involve abstract or non-abstract methods.

Abstract classes cannot be directly instantiated but they have default constructor and can have parameterized constructors.

Enum Types:

Enum is short for "enumerations", which means "specifically listed".

The enum declaration defines an enum type; which is a special data type and consists of a set of predefined constants separated by comma.

Enums neither inherit other classes nor can get extended.

In the Java programming language, you define an enum type by using the **enum** keyword.

You should use enum types any time you need to represent a fixed set of constants.

A Java enumeration is a class type. Although we don't need to instantiate an enum using `new`, it has the same capabilities as other classes. Just like classes, you can give them constructor, add instance variables and methods.

All enums implicitly extend `java.lang.Enum` class. As a class can only extend one parent in Java, so an enum cannot extend anything else.

`toString()` method is overridden in `java.lang.Enum` class, which returns enum constant name.

enum can implement many interfaces.

References:

<https://docs.oracle.com/javase/tutorial/tutorialLearningPaths.html>

<https://www.w3schools.com/>

<https://www.geeksforgeeks.org/>