enum in Java

[*[](https://www.codespeedy.com/author/shivam_purohit/) By Shivam Purohit*](https://www.codespeedy.com/author/shivam_purohit/)

Hello programmers, in this tutorial you will learn what is enum in java and how to use it in java program.

enum in Java

An enum is a data type that allows you to use a predefined set of constants. The enum representation contains a group of different names as constants. And all in uppercase. An enum can be used in the program by using the enum keyword.  
The enum is always public, static, and final, and since this is implicit so we don’t need to define or write public, static, and final.

**Example code:**

enum Keys{

UP,DOWN,LEFT,RIGHT

}

In enum, you can also write the main method in the enum class.  
Note: You can declare enum outside of the class or you can also declare it inside of the class but you cannot declare it inside of a method.

Why use the enum?

The main motive of using enum is to define your own data types i.e. Enumerated Data Types. So you can add constants in the enum.  
You can also add methods in the enum and you can also add constructors into the enum.

Example code for Enum

enum outside the main class

To write enum constants outside the class you just need to define an enum outside the main class and declare some constants into it in uppercase. Then you need to create the main class where you need to write the main method and in this, you need to create an object of enum and call it directly using the enum constant name because enum is static.  
After that, you just need to print the object variable using a print statement.

**CODE:**

1. enum Keys{
2. UP,
3. DOWN,
4. RIGHT,
5. LEFT
6. }
7. public class Main{
8. public static void **main**(**String** args[]){
9. Keys mykeys = Keys.DOWN;
10. System.out.println(mykeys);
11. }
12. }

**OUTPUT:**

DOWN

Enum using the switch statement:

1. enum Seasons{
2. SUMMER,
3. WINTER,
4. SPRING,
5. AUTUMN
6. }
7. public class MainS {
8. public static void **main**(**String**[] args) {
9. Seasons mySeason = Seasons.WINTER;
10. **switch**(mySeason) {
11. **case** SUMMER:
12. System.out.println("Days are Warm");
13. **break**;
14. **case** WINTER:
15. System.out.println("Days are cold");
16. **break**;
17. **case** SPRING:
18. System.out.println("Flower Blooms");
19. **break**;
20. **case** AUTUMN:
21. System.out.println("It is also called as Fall Season");
22. **break**;
23. }
24. }
25. }

OUTPUT:

Days are cold

enum in java

* enum implicitly extends java.lang.Enum class.
* In java.lang.Enum class toString() method is overridden. This toString() method returns constant name.

java.lang.Enum

java.lang.Enum contains 3 main methods to implement with enum these are:

* values()
* ordinal()
* valueOf()

Implementation of these methods is shown below:

**CODE:**

1. enum Directions
2. {
3. NORTH, SOUTH, EAST,WEST
4. }
5. public class Main3
6. {
7. public static void **main**(**String**[] args)
8. {
9. Directions myarray[] = Directions.values(); //.values() return all values present inside enum
10. **for** (Directions d : myarray)
11. {
12. System.out.println(d + " at index" + d.ordinal());//.ordinal() each enum constant index is found & returned
13. }
14. System.out.println(Directions.valueOf("NORTH"));
15. System.out.println(Directions.valueOf("WEST"));//valueOf return the enum constant of the specified string value
16. }
17. }

**OUTPUT:**

NORTH at index0

SOUTH at index1

EAST at index2

WEST at index3

NORTH

WEST

Also Read: [Java program to swap all odd and even bits](https://www.codespeedy.com/java-program-to-swap-all-odd-and-even-bits/)

[Factory Method Design Pattern in Java](https://www.codespeedy.com/factory-method-design-pattern-in-java/)

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