

CS 152
Computer Programming
Fundamentals
Enums

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What is an enum?

An enum in Java is a special kind of class.

- Fixed set of constants
- Can iterate over values
- Can use in a switch
- Use as a type
- Values are objects

Enum example

```
public enum Day {  
    SUNDAY, MONDAY, TUESDAY, WEDNESDAY,  
    THURSDAY, FRIDAY, SATURDAY  
}
```

```
public static void main(String[] args) {  
    Day today = Day.FRIDAY;  
    switch(today) {  
        case SATURDAY:  
        case SUNDAY:  
            System.out.println("Yay! Weekend!");  
            break;  
        default:  
            System.out.println("Not another weekday!");  
            break;  
    }  
}
```

Enum methods

All enums come with some handy methods that you don't have to write yourself.

- `values()` – Static method that returns an array of all the values for this enum type.
- `valueOf(string)` – Static method that takes a `String` name and returns the enum constant with that name.
- `toString()` – get `String` representation of enum constant.
- `compareTo(other)` – compare enum constant to another for order

Enums are classes

- Can define fields and methods
 - More powerful than enums in other languages.
 - Allows data and behaviour to be packaged with the enum constants.
- Cannot explicitly call constructor

Fancier Enum Example

```
public enum Day {
    SUNDAY(true), MONDAY(false), TUESDAY(false),
    WEDNESDAY(false), THURSDAY(false),
    FRIDAY(false), SATURDAY(true);

    private final boolean isWeekend;
    private Day(boolean isWeekend) {
        this.isWeekend = isWeekend;
    }

    public void exclaim() {
        if(isWeekend) {
            System.out.println("Yay! Weekend!");
        } else {
            System.out.println("Not another weekday!");
        }
    }
}
```

Resources

- [Java Enum Tutorial](#)
- [Technotes: Enums](#)
- [How to make the most of Java enums](#)