Period and Duration

In this lesson, we will explore the Period and Duration classes and their methods.

We'll cover the following

If we need to show the amount of time taken e.g 2 days or 3 hours then we need to use the `Period` and `Duration` classes introduced in Java 8 time API.

Let's have a deeper look into these classes.

Period

A period represents the date-based amount of time in the ISO-8601 calendar system, such as **2 years, 3 months, and 4 days**. This class is used to modify a given date or to find the difference between dates. We will look at some of the methods provided by this class and how they work.

a) Creating a period

We can create a period using the `of()` method. There are multiple overloaded variants of the `of()` method. In the example given below, we will cover the most important ones.

```
import java.time.LocalDate;
import java.time.Period;

class DateTimeDemo {
    public static void main(String args[]) {
        Period period = Period.ofDays(5);  // Period of 5 days.
        System.out.println(period.getDays());


        period = Period.ofMonths(3);  // Period of 3 months.
        System.out.println(period.getMonths());

        period = Period.ofYears(2);  // Period of 2 Years
        System.out.println(period.getYears());


        period = Period.of(2, 5, 12); // Period of 2 Years, 5 Months and 12 Days.
        System.out.println(period.getYears());
        System.out.println(period.getMonths());
        System.out.println(period.getDays());

    }
}
```

b) Finding the difference between two dates.

To find the difference between two dates, we have a method called `between()` in the `Period` class.

```
import java.time.LocalDate;
import java.time.Period;

class DateTimeDemo {
    public static void main(String args[]) {

        Period period = Period.between(LocalDate.parse("2020-05-18"), LocalDate.parse("2017-04-17"

        System.out.println(period);

    }
}
```

c) Getting a specific value from `Period`

In the previous example, we saw that we can get a period using the `between()` method. We can fetch the specific value of the year, month, or days also from the period object.

Below is the example for the same.

```
import java.time.LocalDate;
import java.time.Period;
```

```
class DateTimeDemo {
    public static void main(String args[]) {

        Period period = Period.between(LocalDate.parse("2017-04-17"), LocalDate.parse("2020-05-18"

        int years = period.getYears();
        int months = period.getMonths();
        int days = period.getDays();

        System.out.println("The difference between two dates is " + years + " Years, " + months +

    }
}
```

Duration

Duration represents the time-based amount of time in the ISO-8601 calendar system, such as **8 minutes**. This class is used to modify a given time or to find the difference between times.

We will look at some of the methods provided by this class and how they work.

a) Creating a duration

We can create a period using the `of()` method. There are multiple overloaded variants of the `of()` method. In the example given below, we will cover the most important ones.

```
import java.time.Duration;
import java.time.temporal.ChronoUnit;

class DateTimeDemo {
    public static void main(String args[]) {

        Duration duration = Duration.ofDays(1);  // Created a duration of 1 day.
        System.out.println(duration.getSeconds() + " seconds"); // This will return the number of

        duration = Duration.ofHours(2);  // Created a duration of 2 hours.
        System.out.println(duration.getSeconds() + " seconds"); // This will return the number of

        duration = Duration.ofMinutes(23);  // Created a duration of 23 minutes.
        System.out.println(duration.getSeconds() + " seconds"); // This will return the number of

        duration = Duration.of(1, ChronoUnit.HOURS);
        System.out.println(duration.getSeconds() + " seconds");

    }
}
```

b) Finding the difference between two values of values

To find the difference between two values of time, we have a method called `between()` in the `Duration` class.

```
import java.time.Duration;
import java.time.LocalTime;

class DateTimeDemo {
    public static void main(String args[]) {

        Duration duration = Duration.between(LocalTime.parse("12:14"), LocalTime.parse("13:15"));

        System.out.println("The difference is " + duration.getSeconds() + " Seconds");

    }
}
```

The next lesson is the conclusion to this course.