A. Hướng dẫn Kiểu ngày dùng LocalDate:

1. Lấy ngày hệ thống:

// Today for short time

LocalDate nowShort = LocalDate.now();

System.out.println("Current time system: " + nowShort);

// Today for full time

LocalDateTime nowFull = LocalDateTime.now();

System.out.println("Full current time: " + nowFull);

1. Lấy thời gian hiện tại của 1 múi giờ cụ thể:

ZoneId vietnam = ZoneId.of("Asia/Ho\_Chi\_Minh");

ZoneId hawaii = ZoneId.of("US/Hawaii");

LocalDate nowVietNam = LocalDate.now(vietnam);

System.out.println("Current time of Viet Nam: " + nowVietNam);

LocalDateTime fullVietNam = LocalDateTime.now(vietnam);

// get today time of Hawaii USA

LocalDateTime fullHawaii = LocalDateTime.now(hawaii);

System.out.println("Full current time of Viet Nam: " + fullVietNam);

System.out.println("Full current time of Hawaii: " + fullHawaii);

1. **get components year, month, day in date time**

LocalDate localDate = LocalDate.now();

System.out.printf("Ngay: %d - Thang: %d - Nam: %d %n", localDate.getDayOfMonth(), localDate.getMonthValue(), localDate.getYear());

System.out.println("Note that: dont need plus 1 when get month as java 7 ");

LocalDateTime localDateTime = LocalDateTime.now();

System.out.printf("Ngay: %d - Thang: %d - Nam: %d \t Gio: %d - Phut: %d - Giay: %d %n", localDateTime.getDayOfMonth(), localDateTime.getMonthValue(), localDateTime.getYear()

, localDateTime.getHour(), localDateTime.getMinute(), localDateTime.getSecond());

1. **get a specific date**

LocalDate birthdayOfHoChiMinh = LocalDate.of(1890, 5, 19);

System.out.println("Birth of Ho Chi Minh: " + birthdayOfHoChiMinh);

// year, month, day, hour, minute , second

LocalDateTime newYear2010 = LocalDateTime.of(2010, 1, 1, 0, 0, 0);

System.out.println("Happy new year: " + newYear2010);

1. **Compare date in Java 8:**

System.out.println("-------------------- Compare equal -------------------");

LocalDate localDate1 = LocalDate.of(1985, 8 ,22);

LocalDate localDate2 = LocalDate.of(1985, 8 ,22);

LocalDate localDate3 = LocalDate.of(1985, 8, 20);

System.out.printf("Is equal between %s and %s : %b %n", localDate1, localDate2, localDate1.equals(localDate2));

System.out.printf("Is equal between %s and %s : %b %n", localDate1, localDate3, localDate1.equals(localDate3));

LocalDateTime localDateTime1 = LocalDateTime.of(2010, 10, 10, 10 , 10, 10);

LocalDateTime localDateTime2 = LocalDateTime.of(2010, 10, 10, 10 , 10, 10);

System.out.printf("Is equal between %s and %s : %b %n", localDateTime1, localDateTime2, localDateTime1.equals(localDateTime2));

**Compare greater or less two dates: so sánh lớn hơn hoặc nhỏ hơn giữa 2 đối tượng date Sử dụng các method isAfter, isBefore, hoặc compareTo:**

LocalDate oldLocalDate = LocalDate.of(2010, 10, 10);

LocalDate newLocalDate = LocalDate.of(2020, 10, 10);

System.out.printf("%s after %s : %b %n", oldLocalDate, newLocalDate, oldLocalDate.isAfter(newLocalDate));

System.out.printf("%s before %s : %b %n", oldLocalDate, newLocalDate, oldLocalDate.isBefore(newLocalDate));

System.out.printf("%s compare to %s : %d %n", oldLocalDate, newLocalDate, oldLocalDate.compareTo(newLocalDate));

System.out.printf("%s compare to %s : %d %n", newLocalDate, oldLocalDate, newLocalDate.compareTo(oldLocalDate));

// compare full time

System.out.println("-------------------- Compare greater, less full time -------------------");

LocalDateTime oldLocalDateTime = LocalDateTime.of(2010, 10, 10, 10, 10, 10);

LocalDateTime newLocalDateTime = LocalDateTime.of(2010, 10, 10, 10, 10, 20);

System.out.printf("%s after %s : %b %n", oldLocalDateTime, newLocalDateTime, oldLocalDateTime.isAfter(newLocalDateTime));

System.out.printf("%s before %s : %b %n", oldLocalDateTime, newLocalDateTime, oldLocalDateTime.isBefore(newLocalDateTime));

System.out.printf("%s compare to %s : %d %n", oldLocalDateTime, newLocalDateTime, oldLocalDateTime.compareTo(newLocalDateTime));

System.out.printf("%s compare to %s : %d %n", newLocalDateTime, oldLocalDateTime, newLocalDateTime.compareTo(oldLocalDateTime));

1. **check events** : kiểm tra các ngày đặc biệt events xảy ra trong năm ví dụ giáng sinh, lễ tình yêu Sử dụng class MonthDay để check ngày hiện tại có phải là giáng sinh hay không để chạy chương trình sale:

MonthDay currentMonthDay = MonthDay.from(LocalDate.now());

MonthDay christmasDay = MonthDay.of(12, 25);

if(currentMonthDay.equals(christmasDay))

System.out.println("Special sale");

else

System.out.println("Normally");

1. **modify with date: chỉnh sửa date:**

LocalDateTime dateTime = LocalDateTime.now();

// Or LocalDateTime dateTime = LocalDateTime.of(2015,10,10,10,10,10);

// plus day, month, year, week

System.out.println("-------------------- Plus method --------------");

System.out.println("Plus a day: " + dateTime.plusDays(1));

System.out.println("Plus two months: " + dateTime.plusMonths(2));

System.out.println("Plus three weeks: " + dateTime.plusWeeks(3));

System.out.println("Plus 4 years: " + dateTime.plusYears(4));

// minus day, month, year, week. Use minusMethod or pass negative number with plus method

System.out.println("-------------------- Minus method --------------");

System.out.println("Minus a day: " + dateTime.minusDays(1));

System.out.println("Minus a day: " + dateTime.plusDays(-1));

System.out.println("Minus two months: " + dateTime.minusMonths(2));

System.out.println("Minus 60 seconds: " + dateTime.minusSeconds(60));

// Or use general method with type of field

System.out.println("Minus 60 seconds: " + dateTime.minus(60, ChronoUnit.SECONDS));

System.out.println("Minus two months: " + dateTime.minus(2, ChronoUnit.MONTHS));

1. **Use Period to calculte number of month, day between two dates: sử dụng Period để tính toán số ngày hoặc số tháng giữa 2 date:**

LocalDate augustDate = LocalDate.of(2014, 8, 20);

LocalDate novemberDate = LocalDate.of(2016, Month.NOVEMBER, 14);

Period periodToNextJavaRelease = Period.between(augustDate, novemberDate);

System.out.println("Months left between two dates : " + periodToNextJavaRelease.getMonths() );

System.out.println("Days left between two dates : " + periodToNextJavaRelease.getDays() );

System.out.println("Years left between two dates : " + periodToNextJavaRelease.getYears() );

1. **Check leap year in Java 8**: kiểm tra 1 đối tượng date có thuộc năm nhuận hay không:

LocalDate today = LocalDate.now();

System.out.println("Is leap year " + today.isLeapYear());

1. **Parse String to date in Java 8**: chuyển từ 1 string sang kiểu date

// parse with predefined

String dateStr = "20160816";

LocalDate localDate = LocalDate.parse(dateStr, DateTimeFormatter.BASIC\_ISO\_DATE);

System.out.println("Local Date value: " + localDate);

String dateTimeStr = "2016-08-03T12:12:30";

LocalDateTime localDateTime = LocalDateTime.parse(dateTimeStr, DateTimeFormatter.ISO\_LOCAL\_DATE\_TIME);

System.out.println("Local Date Time value " + localDateTime);

// parse with format of user

String dateTimeStr2 = "2016-08-03 12:12";

DateTimeFormatter formatter = DateTimeFormatter.ofPattern("yyyy-MM-dd HH:mm");

System.out.println("Local Date Time value " + LocalDateTime.parse(dateTimeStr2, formatter));

// parse for TimeZoneString

String dateSTR = "2019-06-16T17:00:00.0000000Z";

ZonedDateTime zonedDateTime = ZonedDateTime.parse(dateSTR, DateTimeFormatter.ISO\_DATE\_TIME);

System.out.println("ZonedDateTime " + zonedDateTime);

1. **Format Date to String in Java 8**:

LocalDateTime localDateTime = LocalDateTime.now();

DateTimeFormatter formatter = DateTimeFormatter.ofPattern("MMM dd yyyy");

DateTimeFormatter formatterFull = DateTimeFormatter.ofPattern("yyyy-MM-dd HH:mm");

System.out.println("Date string: " + localDateTime.format(formatter));

System.out.println("Date string full: " + localDateTime.format(formatterFull));

1. **Format curencen to String in Java 8**

CultureInfo cul = CultureInfo.GetCultureInfo("vi-VN"); // try with "en-US"

string a = double.Parse("12345").ToString("#,###", cul.NumberFormat);

var value = 8012.34m;

var info = System.Globalization.CultureInfo.GetCultureInfo("vi-VN");

Console.WriteLine(String.Format(info, "{0:c}", value));

double currencyAmount = 1500.00;

// Create a new Locale

Locale usa = new Locale("en", "US");

// Create a Currency instance for the Locale

Currency dollars = Currency.getInstance(usa);

// Create a formatter given the Locale

NumberFormat dollarFormat = NumberFormat.getCurrencyInstance(usa);

// Format the Number into a Currency String

System.out.println(dollars.getDisplayName() + ": " + dollarFormat.format(currencyAmount));

Viet nam:

Locale usa = new Locale("vi", "VN");