Formatting Data

Exercises and solutions

1. What class would you use to format a date in a java.util.Date object using a pre-defined locale specific format?

**Answer:**

java.text.DateFormat

1. What class would you use to format a date in a java.util.Date object using a custom format?

**Answer:**

java.text.SimpleDateFormat

1. What class would you use to parse a date in a String object to get a java.util.Date object?

**Answer:**

java.text.SimpleDateFormat

1. What class would you use to format a number in a pre-defined locale specific format?

**Answer:**

java.text.NumberFormat

1. What class would you use to format a number in a custom format?

**Answer:**

java.text.DecimalFormat

1. What class would you use to parse a double in a string to get a number?

**Answer:**

java.text.DecimalFormat

1. Assuming the current date returned by the "new Date()" expression in the following snippet of code as January 12, 1968, what will be the output of the following snippet of code?  
     
   import java.text.SimpleDateFormat;  
   import java.util.Date;  
   ...  
   SimpleDateFormat sdf = new SimpleDateFormat("dd/MM/yyyy");  
   String currDate = sdf.format(new Date());  
   System.out.println(currDate);

**Answer:**

12/01/1968

1. What method would you use to print a formatted output to the standard output – System.out.println() or System.out.printf()?

**Answer:**

System.out.printf()

1. What are the format specifiers for outputting a Boolean value, a character, an integer, a floating-point number, and a string?

**Answer:**

* ‘b’ or ‘B’ – Boolean
* ‘c’ or ‘C’ – Character
* ‘d’, ‘o’, ‘x’ or ‘X’ - Integer
* ‘e’, ‘E’, ‘g’, ‘G’, ‘f’, ‘a’ or ‘A’ – Floating-point Number
* ‘s’ or ‘S’ – String

1. The following statements throws a MissingFormatArgumentException. Describe the reasons behind the exception and how you will fix it.  
     
   System.out.printf("%d %f", 1969);  
   System.out.printf("%d %f", 1969, 2017);

**Answer:**

A java.util.MissingFormatArgumentException is thrown if a format specifier references a non-existent argument. In the first statement there are two format specifiers but only one argument, hence the exception. This can be fixed by removing extra format specifier %f.

The second statement results in java.util.IllegalFormatConversionException. The format specifier %f is for floating-point number, but argument 2017 is an integer. This can be fixed by replacing %f with %d.

1. Write the output of the following statement.  
     
   System.out.printf("%s %s%n", "Ken", "Lu");  
   System.out.printf("%s %<s%n", "Ken", "Lu");  
   System.out.printf("%s %<s %2s%n", "Ken", "Lu");

**Answer:**

Ken Lu

Ken Ken

Ken Ken Lu

1. Write the output for the following snippet of code.  
     
   System.out.println(new DecimalFormat("##.##").format(12.675));  
   System.out.printf("%.2f%n", 12.675);  
   System.out.printf("%1.2f%n", 12.675);  
   System.out.printf("%2.2f%n", 12.675);  
   System.out.printf("%2.1f%n", 12.675);

**Answer:**

12.68

12.68

12.68

12.68

12.7

1. Complete the following snippet of code that will output "My birthday is on FRIDAY SEPTEMBER 19, 1969". Note that you have to output the names of the week day and month in uppercase.  
     
   LocalDate bDay = LocalDate.of(1969, 9, 19);  
   String format = /\* Your code goes here\*/;  
   System.out.printf(format, bDay);

**Solution:**

LocalDate bDay = LocalDate.of(1969, 9, 19);

String format = "My birthday is on %TA %<TB %<td, %<tY %n";

System.out.printf(format, bDay);

1. Write the output of the following snippet of code.  
     
   System.out.printf("%d%n", 16);  
   System.out.printf("%x%n", 10);  
   System.out.printf("%c%n", 'a');  
   System.out.printf("'%5C' %n", 'a');  
   System.out.printf("'%-5C' %n", 'a');

Answer:

16

a

a

' A'

'A '

1. Write the output of the following snippet of code.  
     
   System.out.printf("%s %<s %s %1$s %s%n", "Li", "Hu", "Xi");

**Answer:**

Li Li Hu Li Xi