File IO / NIO

* Exercise #1:

Write a program that combines 2 files together into one. Run this program using the following command and syntax:

```
java FileCombiner < file1 > < file2 > < dest_file >
```

For example:

```
java FileCombiner Saturday.txt Sunday.txt Weekend.txt
```

The result file `Weekend.txt` is the concatenation of 2 files `Saturday.txt` and `Sunday.txt`.

* Exercise #2:

Given the PNG file format spec here, writes a program that takes an argument which is the path of a PNG file and prints the following information about the image file (for example):

```
Width: 1024 pixels
Height: 768 pixels
Bit depth: 24
Size: 12,142 bytes
```

If the file is not really a PNG file, print the following message:

```
The file is not a valid PNG file.
```

Hints:

Use the information about PNG file signature (the first 8 bytes) to tell whether the file is in PNG format or not.

Use the information about the IHDR image header to read the width, height and bit depth of the image.

Runt the program via command line like this:

```
java PNGReader
```

* Exercise #3:

Write a program that parses a text file to check if a number is a prime number or not, and writes report to a text file. Run this program like this:

```
java PrimeParser input.txt output.txt
```

For example, the input.txt file has the following content:

```
2000   280    291    2      10     3
198    13     29     2      88     6
500    1024   17     90     102    3
```

Then the program must create the `output.txt` file with the following content:

```
2      2
3      2
13     1
17     1
29     1
```

The first column is the prime number, and the second one is the number of its occurrences in the file.

* Exercise #4:

Upgrade the program you did write in the exercise #1 of week #12 (find the email {J-84}) to print the output (a list of books) in a column-based format, using format Strings with the `format()` method.

* Exercise #5:

Write a program that connects to a MySQL database with the connection information is loaded from the `database.properties` file (in the same directory as the program). This file looks something like this:

```
dbURL= jdbc:mysql://localhost:3306/test1
username=root
password=secret
```

For connecting to MySQL, consult this article: Connect to MySQL database via JDBC

* Exercise #6:

Write a program that lists all disk drives on your computer along with total space and free space in the following form:

```
Drive #1: C:\
        Total space: 70.52 GB
        Free space: 8.31 GB
Drive #2: D:\
        Total space: 10.02 GB
        Free space: 510 MB
```

Note that you have to convert the size in bytes to KB, MB or GB accordingly