Lab work 1

Learning the base classes and features of working with Java

Purpose of work: Learning the work of the main Java classes. Practical use of the knowledge gained.

Task 1: Development of a console java-program using standard libraries of a programming language.

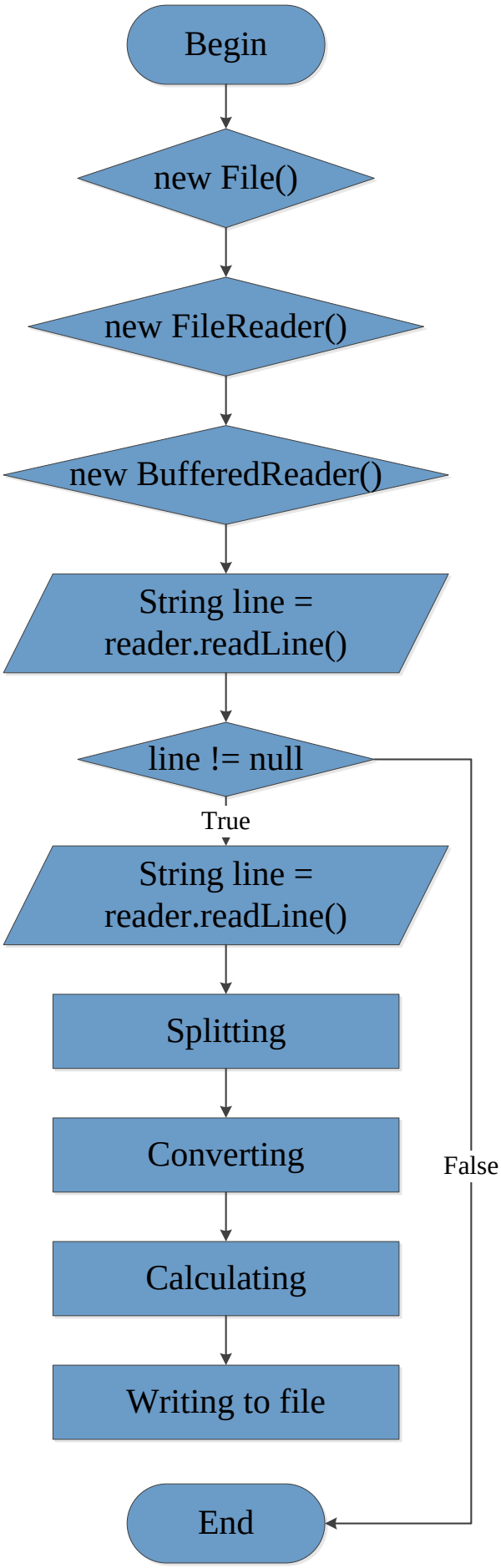
Requirements: It is necessary to develop a console java-program with which you can carry out the following actions:

1. The user manually creates a .txt file on the computer.
2. Writes into the file a few simple arithmetic expressions. Their format:
    - 2+2
    - 4-1
    - 16*74
    - 100/29
3. Runs a java-program. The program reads line-by-line arithmetic expressions and calculates them.
4. The program creates a second .txt file and writes there the answers received during the calculation of arithmetic expressions from the first .txt file.

The order:

1. Learn a sample block diagram of a program.
2. Understand unfamiliar classes and methods.
3. Write a program.
4. Prepare answers to questions.

Program call example:
java PROGRAM_NAME INPUT_FILE OUTPUT_FILE


Begin
new File()
new FileReader()
new BufferedReader()
String line = reader.readLine()
line != null
True
String line = reader.readLine()
Splitting
Converting
Calculating
Writing to file
False
End

Task 2: Development of a console java program designed to crack a zip archive with dictionary search.

Requirements: It is necessary to develop a console java-program with which you can carry out the following actions:

1. The user manually creates a password-protected zip file on the computer. Password is one of the lines taken from the file https://raw.githubusercontent.com/danielmiessler/SecLists/master/Passwords/Common-Credentials/10k-most-common.txt
2. Starts a java-program. The program reads the contents of the file line by line and checks the password.
3. Upon successful opening of the zip archive, the program ends its execution and writes the password to the specified file.

The order:

1. Learn the zip program for archiving files with a password.
2. Understand unfamiliar classes and methods.
3. Write a program.
4. Prepare answers to questions.

Program call example:
java PROGRAM_NAME ZIP_FILE OUTPUT_FILE