Worksheet 7 « Streams I/O and files handling»

Exercise 1

What screen output does the following program produce, and why?

```
int main()
        {       char character;
                int integer;
                ofstream out_stream;
                ifstream in_stream;

                /* Create a file containing two integers */
                out_stream.open("Integers");
                out_stream << 123 << ' ' << 456;
                out_stream.close();

                /* Attempt to read a character, then an integer,
                  then a character again, then an integer again,
                  from the file "Integers" just created.       */
                in_stream.open("Integers");
                in_stream >> character >> integer;
                cout << "character: '" << character << "'\n";
                cout << "integer: " << integer << "\n";
                in_stream >> character >> integer;
                cout << "character: '" << character << "'\n";
                cout << "integer: " << integer << "\n";
                in_stream.close();
                return 0;
        }
```

Exercise 2

Write a program which outputs its own C++ source file to the screen.

Exercise 3

Write a program that will:

- Read 10 float values from an input file called (.txt).
  (you have to create the « ex3_input.txt » file and make up 10 numbers yourself)
- Output the sum and the average of the 10 float values to an output file ex3_output.txt with labels.
- Use if statements to see if the input and output files opened successfully before reading or writing with them.
- Compile and run this C++ program.

When you are done:

- Observe the results in ex3_output.txt.

Exercise 4

- Edit the input data file ex4_input.txt, This file contains in each line a string representing the first name and last name of a person.
- Write a program to put the content of ex4_input.txt in a second file ex4_output.txt, insert for each line the line number.
- After running your program, check the contents of the output data file;