Programming task no. 1, SKJ – winter semester 2019/20

Subject: **The HTTP proxy server**

1. The task consists in implementation of an application working as an HTTP proxy server.
2. Th application consists of one process acting as a server. The server works using a TCP port given as its parameter. It waits on it for connections from the clients – WWW browsers. In order to use such server, a browser must be configured with the address and port number of the server (according to a browser configuration). The HTTP proxy forwards the connections – the browser sends the HTTP request not directly to the HTTP server, but to the proxy. The proxy connects with the server, acting as on of the communication sides and the results of such query are hen forwarded to its client (the browser). One must remember to correctly pass to the server all the data delivered by a client in a request.
3. Implementation of the HTTP proxy functionality must be implemented by the programmer with his/hers own code, without using solutions found on the Internet.
4. The TCP protocol should be used for communication (the ServerSocket and Socket classes).
5. The solutions must be stored in appropriate directories in the EDUX system before 27.11.2019.
6. For correct solution of the problem the author can obtain up to 4 points (and 1 additional):
    a) 4 points max. for full functionality using a self-written implementation of an HTTP proxy.
    b) **Additionally 1 point** may be gained for such an implementation, in which the proxy is able to work with multiple parallel requests from a client and with multiple clients at the same time (multithreaded).
7. The project archive should contain:
    a) Source files (for JDK 1.8)
    b) Binary (class) files,
    c) Scripts for Linux (and/or Windows system) which allow to run the proposed solution (optional).
    d) The Readme.txt file with author's description and remarks, especially:
        - **Detailed description of the implementation** (no description or incompleteness of protocol description may significantly reduce the grade),
        - how to compile/install,
        - how to run,
        - how to use,
        - what does not work (if anything).

8. IF NOT DETAILED, ALL UNCERTENTIES SHOULD BE DISCUSSED WITH THE TEACHER. OTHERWISE, THE SOLUTION MAY BE NOT ACCEPTED, IN CASE OF WRONG SELF-INTERPRETATION.