Leszek Ciopiński, MSc
2018/2019

Fundamentals of Programing 2

Project

1. Introduction

In this document, the rules and terms of an assessment of a project are presented. It is also published on Achilles website (https://achilles.tu.kielce.pl).

"Algorithms + Data Structures = Programs"

-Niklaus Wirth

2. Contact

- In person, during the classes.

- In person, during the consultations. The schedule of consultations is published on the Achilles website.

- Via email: l.ciopinski@tu.kielce.pl

3. Working teams

- All students are divided into working groups (two two-person and one three-person groups).

- Information about about members of each group and the chosen project topic should be sent to the lecturer via email to: l.ciopinski@tu.kielce.pl by the end of March at the latest.

- Failure to submit requested information before the deadline will result in negative note for the course.

4. Project content

- A program written in C language (neither C++ nor C#) together with its source code

- A report of a project, which contains:

  - Topic and its number

  - An abstract, with a very short (a few sentences) description of the project

- Information, what has been done

- Information, what has not been done and why

- Bibliography (also links to websites)

- additional, items which are necessary to run the project (if applicable)

5. Evaluation of a project

- The finished project should be sent to the lecturer at least 4 days before the last classes.

- The Project evaluation will be based on:

  - program features (its accordance with the topic)

  - a source code quality

  - a performance and stability of the program

7. Topics

1. Travelling Salesman Problem
   Finding a solution using Genetics Algorithm. A list of cities and distance between them should be read from a file.
   Three-person group: Cost of transport from city A to B is different than from city B to A.

2. XML Validator
   A validator of a XML file using a DTD file.
   Two-person group could omit symbols: +, *, ? in DTD.

3. Breaker of a Substitution Cipher
   A breaker, which use a frequency analysis to decrypt the message.
   Three-person group should check the quality of a decryption using dictionary.

4. An escape from a labyrinth
   Using the A* algorithm, find the shortest way from a selected place in labyrint to the exit.
   Three-person group: use Curses library to present a map of a labyrinth.

5. "OPEN"
   Any topics proposed by students and accepted by the lecturer.