Implementační dokumentace k 1. úloze do IPP 2022/2023

Jméno a příjmení: Denys Petrovskyi
Login: xpetro27

1 Introduction

Parse.php provides lexical and syntaxis analysis of the language IPPcode23, which is read from stdin. The program returns XML code to stdout.

2 Implementation procedure

To implement a parser, I followed the next plan:

- **Processing the arguments:** my parse.php supports only one argument which is `--help`, this command prints out the usage of parser.

- **Processing the line:** for this purpose a loop is added, which runs until data from stdin ends. Each iteration new line of IPPcode23 is being written to the variable `$line`. If on first iteration of the loop is not header, the program ends with error, there is a variable for that is called `$header`, it is boolean and after header was read it becomes *true*.

  After line is read, it gets cleard from all comments by using function `str_split()` and `explode()`. Also all the problematic characters in XML (`'<'`, `'>'`, `'&'`) are being replaced by (`'<'`, `'>'`, `'&'`). Using the same function `explode()` instruction gets seperated from it arguments.

- **Printing out XML code:** after line is splitted the new object of class `Line` is created. By using it methods instructions are being checked for lexical and sytaxis errors with regular expresions and function `preg_match()` and then XML code is being printed out. Usage of certain method depends on arguments the instruction has. In `switch()` all the instructions are divided into groups to which a certain method belongs. After all the input code is processed the program ends.