Multi-paradigm and Meta-programming in the Software Engineering

Kiev, 2015-2022

Programming basics

Links

- Author: https://github.com/tshemsedinov
- Telegram channel: https://t.me/HowProgrammingWorks
- Tasks: https://github.com/HowProgrammingWorks/Index/blob/master/Exercises.ru.md
- Glossary: https://github.com/HowProgrammingWorks/Dictionary/blob/master/Fundamentals.ru.md

Module SEF1

36 lectures (4 introductory, 8 on the JS language, 18 on fundamental concepts of programming, 6 on development tools and process), 8 seminars, 9 laboratory works, 47 repositories with code examples.

1. Introduction
1.1. Abstractions, modeling, reuse
1.2. Algorythm, programm, syntax, language
1.3. Value, identifier, variable and constant, literal, assignment
1.4. Data types, scalar, reference and structure types
1.5. Operator and expression, code block, function, loop, condition
1.6. Procedural paragidm, call, stack and heap
1.7. Application building blocks: modules, dependencies, libraries, components
1.8. Programming languages and paradigms, technology stack
1.9. Development environment and code debugging
2. JavaScript, Python and C syntax
3. Collections
3.1. Array, list, set, tuple
3.2. Dictionaries, hash table and assiciative array
3.3. Stack, queue, deque
3.4. Trees, Graphs
3.5. Structs and records
4. Basic concepts

Consider following:

```
const id = (x) => x;

// Usage

const res = id(5);
console.log({ res });
```