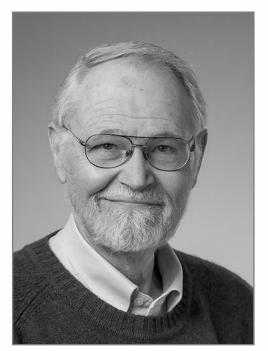
Code Style

YEGOR BUGAYENKO

Lecture #22 out of 24 80 minutes

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BRIAN KERNIGHAN

"The harder it is for people to grasp the intent of any given section, the longer it will be before the program becomes operational. Trying to outsmart a compiler defeats much of the purpose of using one. Write clearly — don't sacrifice clarity for 'efficiency."

— Brian W. Kernighan and Phillip James Plauger. *The Elements of Programming Style*. McGraw-Hill, Inc., 1974

Which One Is Better?

```
int f(int n)

int f(int n)

if (n == 1 || n < 2)

return 1;

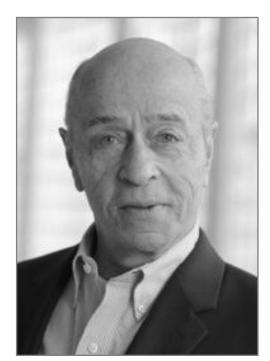
int r = f (n-1);

int r2 = f(n - 2);

return r +r2;

}</pre>
```

```
int fibonacci(int n) {
  if (n <= 2) {
    return 1;
  }
  return fibonacci(n - 1)
  + fibonacci(n - 2);
}</pre>
```



HENRY LEDGARD

"An individual's body language helps clarify the spoken word. In a similar sense, the programmer relies on white space—what is not said directly—in the code to communicate logic, intent, and understanding."

— Robert Green and Henry Ledgard. Coding Guidelines: Finding the Art in the Science. *Communications of the ACM*, 54(12):57–63, 2011

if (expression) {
 statements
}

statements
}
if (expression)

if (expression)

{
 statements
}

statements
}

Source: Robert Green and Henry Ledgard. Coding Guidelines: Finding the Art in the Science. *Communications of the ACM*, 54(12):57–63, 2011

My Favorite Style Checkers

- Qulice for Java (Checkstyle + PMD)
- ESLint for JavaScript
- Clang-Tidy for C++
- Pylint for Python
- Rubocop for Ruby
- PHP_CodeSniffer for PHP
- rustfmt for Rust

How Many Rules in Style Checkers?

- 690+ in Clang-Tidy (C++)
- 550+ in Rubocop (Ruby)
- 400+ in PMD (Java)
- 130+ in Checkstyle (Java)
- 120+ in Pylint (Python)

Some/most of the rules no only check style, but also find bugs

Some Exotic Style Checkers

- Shellcheck for Bash
- markdownlint for Markdown
- Checkmake for Makefile
- xcop for XML

Code Style

References

Robert Green and Henry Ledgard. Coding Guidelines: Finding the Art in the Science.

Communications of the ACM, 54(12):57–63, 2011.

Brian W. Kernighan and Phillip James Plauger. *The Elements of Programming Style.* McGraw-Hill, Inc., 1974.

Code Style