an external tree visitor pattern"
Posted by wildbill on Thu, 02 Nov 2023 08:47:14 GMT
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Creating Gear: An interpreter written in Free Pascal using an external tree visitor pattern
Jeroen de Haan

https://github.com/jdehaan2014/GearLanguage/tree/master/inte rpreter

https://cloud.mail.ru/public/1KND/xbMLrR7a4

This is a no-nonsense book about creating an interpreted programming language, named “Gear”, using an external visitor pattern. Why Gear? No particular reason, I just like the sound of it…
In this book I won’t describe a lot of theory, as there are plenty of good books out there. As a matter of fact, I do recommend reading a few of them, such as:

- Writing Compilers and Interpreters, A software emgineering approach (Ronald Mak)

- Language Implementation Patterns (Terence Parr)

Then, there are hands-on websites/blogs that describe and create an interpreter on-the-go:

- Let’s build a simple interpreter (https://ruslanspivak.com/lsbasi-part1/) (Ruslan Spivak)

- Crafting Interpreters (http://craftinginterpreters.com) (Bob Nystrom)

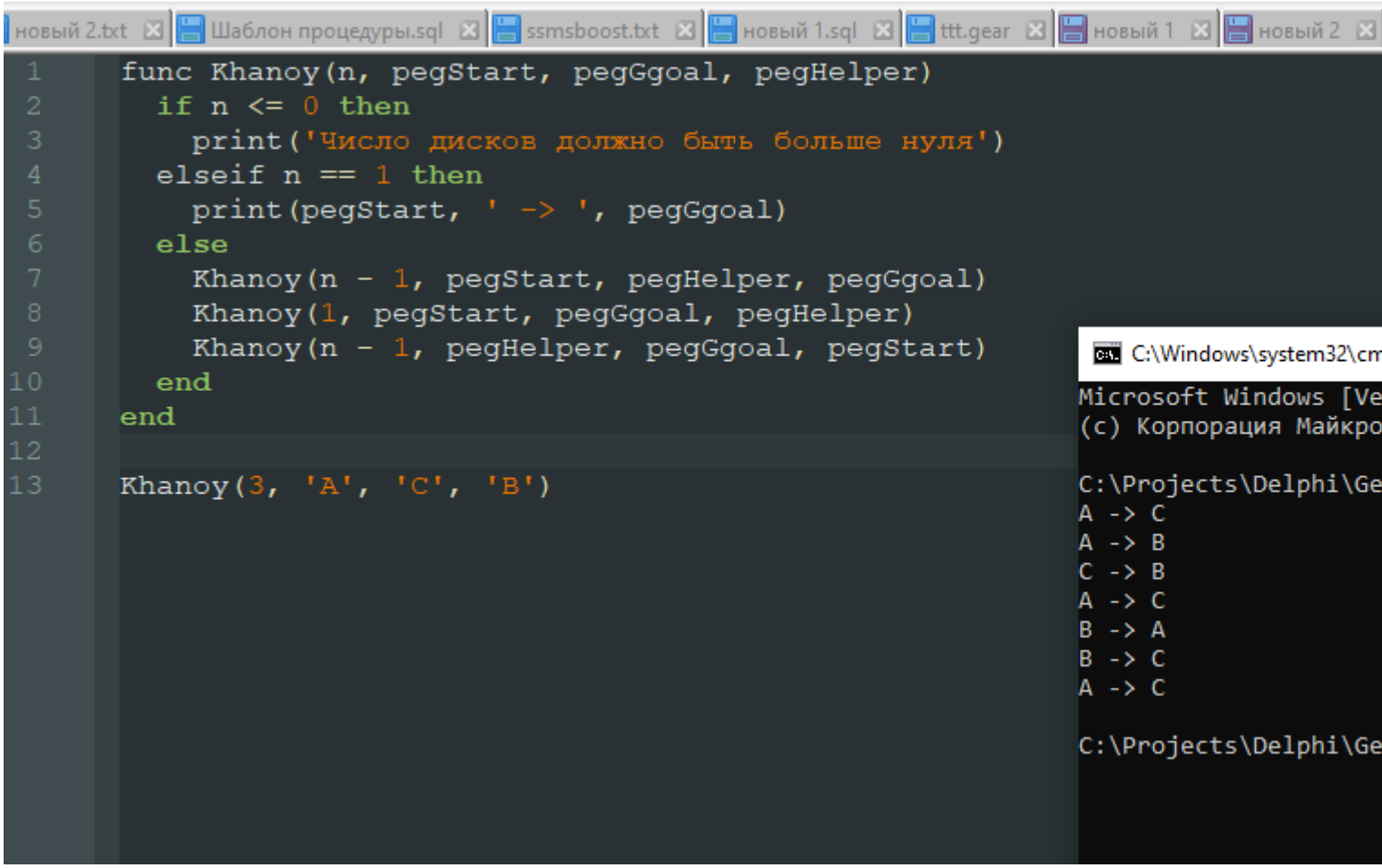
These books/blogs use Java or Python as programming language.

The code in this book is based on the programming language Object Pascal, a modern pascal version, and the free downloadable IDE ‘Lazarus’. Lazarus/Free Pascal is available for Windows, Linux, OSX, and many other Operatig Systems. It’s slogan is: ‘Write once, compile anywhere’! The website and download links are available at: http://www.lazarus-ide.org/index.php. For this book I use version 2.0.4 (or later) of Lazarus and version 3.04 (or later) of Free Pascal.

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Crafting interpreters.

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```
private boolean isDigit(char c) {
    return c >= '0' && c <= '9';
}
```

```
  Underscore      = ['_'];
```

```
LoCaseLetter    = ['a'..'z'];
UpCaseLetter    = ['A'..'Z'];
Letters         = UpCaseLetter + LoCaseLetter;
AlphaChars      = UpCaseLetter + LoCaseLetter + Underscore;
NumberChars     = ['0'..'9'];
```

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Crafting interpreters.

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```
private boolean isAlpha(char c) {
    return (c >= 'a' && c <= 'z') ||
```

```
        (c >= 'A' && c <= 'Z') ||
         c == '_';
}

private boolean isAlphaNumeric(char c) {
    return isAlpha(c) || isDigit(c);
}
```

---

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```
private boolean isDigit(char c) {
    return c >= '0' && c <= '9';
}
```

```
  Underscore      = ['_'];
  LoCaseLetter    = ['a'..'z'];
  UpCaseLetter    = ['A'..'Z'];
  Letters         = UpCaseLetter + LoCaseLetter;
  AlphaChars      = UpCaseLetter + LoCaseLetter + Underscore;
  NumberChars     = ['0'..'9'];
```

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False

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True

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By the end of the book you'll be an Object Pascal guru and have some knowledge of Lazarus.

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https://delphi-books.com/en/Writing-an-Interpreter-in-Object
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