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THE BENEFITS OF PYTHON AS A HIGH-LEVEL PROGRAMMING LANGUAGE

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Анотація: *У статті розглянуто переваги Python як мови програмування високого рівня. Запропоновано деякі можливості Python, які можуть бути використані як початківцями, так і досвідченими користувачами.*
Ключові слова: *Python, мова програмування високого рівня, функції, база даних, інтегроване середовище програмування, скрипт автоматизації.*

Abstract: *The article considers benefits of Python as a high-level programming language. Some Python features to be used by both beginners and proficient users are suggested.*
Keywords: *Python, high-level programming language, features, database, integrated development environment, automation script.*

Introduction

A high-level language is an object oriented programming language, a convenient and simple means of describing the information structures and sequences of actions required to perform a particular task. Programming languages contain the series of commands that create software. High-level languages were developed because of the difficulty of programming assembly languages. High-level languages are easier to use than machine and assembly because of their commands resemble natural human language.

Statement of basic materials

Python is a one of the most popular programing language in the world. It was created by Guido van Rossum, and released in 1991. It runs on different platforms such as Windows, Linux, MacOS etc. With its simple syntax, it is easy for beginners. At the same time, it's powerful for advanced applications. Developers use Python to create database, automation scripts, game development etc. To run Python programs programmers use different integrated development environments (IDEs). For example, the most powerful tool is Pycharm. It allows to create application, debag it, use code autocomplete etc. The second is Visual Studio code.

Python can do many helpful things such as process automatization, creating web applications, handling big data. Also Python works on different platforms like Windows, Linux, MacOS, Raspberry Pi, Zero Flipper etc. It is used for mathematics, system scripting, software development etc. Python has easy to understand syntax like English language. With Python you can do the following tasks:

– write databases;
– write games;
– write web applications;
– automate processes;
– work with big data;
– change system configuration;
– create and delete files etc.

The most famous Python programming environment are PyCharm, Thonny, VS Code, IDLE.

PyCharm are designed by JetBrains. PyCharm is available in two editions:

– Community (free and open-sourced);
– Professional (paid).

Thonny is designed for users with zero experience and it has the following features:

– easy to get started;
– no-hassle variables;
– simple debugger;
– step through expression evaluation;

– faithful representation of function calls;
– highlights syntax errors etc;
– beginner friendly system shell.

IDLE – the default Python environment. It's simple and understandable. IDLE uses through the terminal or power shell.

Visual Studio Code with the Python extension provides IntelliSense, debugging, use AI to autocomplete code, testing, and environment management. You can run code, use Jupyter notebooks, and configure settings for a customized workflow. Install Python, add the extension, and select an interpreter to get started.

Conclusion

To conclude Python programing language is one of the most powerful tool for developers both beginners and advanced users. It is used in various fields from wed development and building database to automation software and game development. It has powerful and different libraries and frameworks allowing professional developers build complex applications.

There are many integrated development environments that support Python such as PyCharm, Thonny, Visual Studio Code, IDLE that help to facilitate the work of users.

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