

CREATE Your future

Agenda

Intro To Python What is Python History of Python Python Application Area What is Interpreter Python Interpreter(Installation) Visual Studio Code What is IDE Why Visual Studio Code Installation Environment Setup Features

Intro To GIT Version Control System What is Git GitHub

What is Python



- Free and Open Source
- Scripting Language
- Interpreted
- Object-Oriented
- High-level programming language
- Extensible
- Integrated
- Expressive Language

History of Python

- Python was conceived in the late 1980s by Guido van Rossum
- First appeared in February 1991: 30 year ago
- Python 2.0 was released in 2000
- Python 3.0 was released in 2008
- Python 3.0 is a major revision of language and is not compatible with python 2
- Since January 1, 2020 python 2 is no longer supported
- Python 3.9 is the last python version for now



Python Application Area

- Al and Machine Learning
- Data Analytics
- Data Visualization
 - Ploty
 - Pandas Visualization
- Programming application
 - GUI
 - API

- Web development
 - Django
 - Pyramid
 - Flask
- Game development
 - Pygame
- Language development
- Finance
- SEO
- Design

What is Interpreter

- Program
- Executes instructions written in a high-level language
- Process code at a run time
- Checking the code for errors line by line
- No Object Code is generated, hence are memory efficient.
- Programming languages like JavaScript, Python, Ruby use interpreters.

What is compiler

- Program
- Takes the entire program as input
- Generate machine code
- Checking the code for errors during compilation process
- Compiled program takes more memory
- Example of programming languages that use compilers: C, C++, Java, COBOL

Compiling process



Python Interpreter



Python Installation

- Python installation link <u>https://www.python.org/downloads/</u>
- Download python 3.x version
- Open the .exe file
- Follow the installation instructions
- Add python3.x to PATH
- Open python 3.x interpreter user interface
- Print "hello team" text

Code Editor vs IDE

- Developer's tool designed to edit the source code of computers programs
- Text editor with powerful built-in features
- Key features
 - Syntax highlighting
 - Printing
 - Multiview
 - Preview window
- Code editors
 - Atom
 - Sublime Text
 - Notepad++
 - VIM
 - Visual Studio Code

- Integrated Development Environment
- Set of software development tools designed to make coding easier.
- Key features
 - Text editing
 - Debugging
 - GUI
 - Syntax highlighting
 - Unit testing
 - Code completion(Autocomplete)
 - IDE's
 - NetBeans
 - Eclipse
 - IntelliJ
 - Visual Studio
 - PyCharm



- Built-in open source-code editor made by Microsoft
- Cross-Platform
- Fast
- Embedded Version Control
- Use less memory
- Support a huge amount of languages

Visual Studio Code Installation 🗙

- Download the Visual Studio Code installer for Windows (32 or 64 bit, depending on your system)
 - <u>https://code.visualstudio.com/download</u>
- Run the installer VSCodeUserSetup-{version}.exe
- Follow the instructions
- Select "Create a desktop icon" checkbox
- Select "Add to PATH" checkbox
- By default, VS Code is installed under C:\users\{username}\AppData\Local\Programs\Microsoft VS Code
- Launch Visual Studio Code

Visual Studio Code Setup 🗙

- Open EXTENSIONS toolbar(Ctrl+Shift+x)
- Type Python and Install python extension for Visual Studio Code
- Create a folder somewhere in your computer
- Select the folder what you created by File->Open Folder
- Create a new file with .py extension
- Write print("Hello Team") text
- Select python interpreter(Ctrl+Shift+p)
- Type "Python interpreter" and select interpreter
- Open the terminal (View->Terminal or Ctrl`)
- Run you code (python some_file.py)
- Congratulations!!!

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Version Control Systems

- Process management system
- Also called revision control system
- Maintain changes recorded in a file or set of files over period of time.
- Each change is maintained as a version
- User can track specific versions later
- Allow to compare different versions

Version Control Systems Types

- Local Version Control System
 - Maintains track of files within the local system
 - This approach is very common and simple
 - This type is also error prone which means the chances of accidentally writing to the wrong file is higher.



- Tools
 - RCS

Version Control Systems Types

- Centralized Version Control Systems
 - Files are tracked under the centralized sever
 - Single server that contains all the versioned files
 - Everyone knows to a certain degree what everyone else on the project is doing
 - Disadvantages
 - Single point of failure
 - Tools
 - Tortoise SVN
 - CVS
 - Bazaar
 - Subversion
 - Perforce



Version Control Systems Types Sever Computer **Distributed Version Control Systems** Fully mirror the repository, including its full history Version 2 Every clone is really a full backup of all Version 1 the data Several remote repositories **Computer 1 Computer 2** Availability collaborate with different groups of people in different ways simultaneously within the same project Allow set up several types of workflows Tools Git Mercurial Version 1



- First developed by the creator of Linux kernel, Linus Torvalds in 2005
- Goals
 - Speed
 - Simple design
 - Strong support for non-linear development(thousands of parallel branches)
 - Fully distributed
 - Stores series of snapshots of a miniature filesystem
 - If file is not changed GIT make a link to the previous identical file it has already stored







SAME YOU JUST BETTER

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