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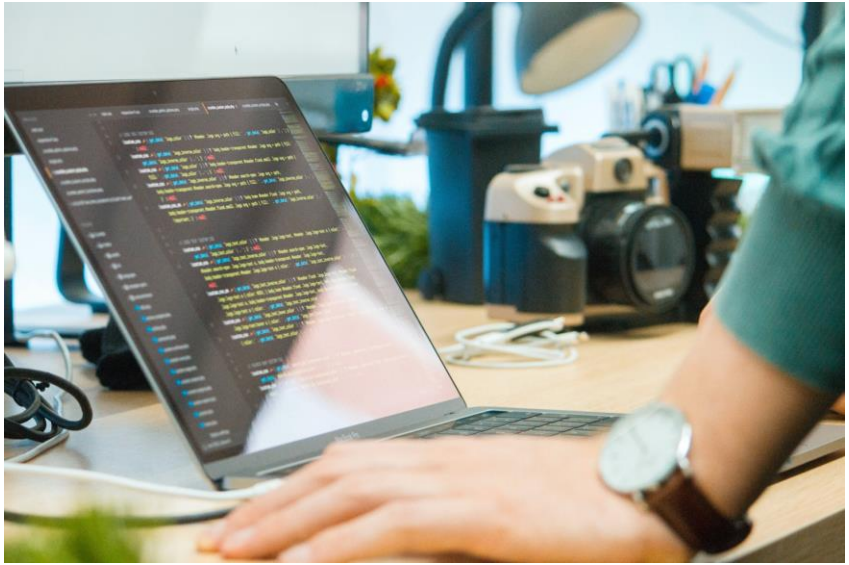

Python
Introduction

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Git, IDE & Python

Content

- **Git**

  Introduction to Version Control (Git):

  - Create and clone repository
  - Upload file to repository

- **IDE**

  Introduction to Integrated Development Environment (IDE):

  - What is IDE
  - VS Code

- **Python**

  Introduction to python:

  - Create your first program
  - Comments
  - Variables
  - Data types
  - Math Operations
  - Castings

Git

Git is a distributed **version-control** system **for tracking changes in source code** during software development.

It is designed for coordinating work among programmers, but **it can used to track in any set of files**. Its goals include speed, data integrity, and support for distributed, non-linear workflows.

Git Command

1. **git clone [url]**

   Clone (download) a repository that already exists on GitHub, including all of the files, branches, and commits.

1. **git add [file]**

   Snapshots the file in preparation for versioning.

1. **git commit -m “[descriptive message]”**

   Records file snapshots permanently in version history

1. **git push**

   Uploads all local branch commits to GitHub

IDE

An integrated development environment (IDE) is a **software application** that provides comprehensive facilities to computer programmers for software development.

Some popular IDEs, such as Sublime, Atom, NetBeans, Eclipse and VS Code.

We are gonna use Visual Studio Code yeay!

IDE

Special Python IDE best for data analysis, data visualisation and developing **machine learning models**.

It is a web application based on the server-client structure, and it allows you to create and manipulate notebook documents - or just “notebooks”.

You will learn how to use it for Intermediate Python.

Python

Python is an interpreted, high-level and general-purpose programming language. Created by Guido van Rossum and first released in 1991.

Python’s design philosophy emphasizes code readability with its notable use of significant whitespace.

Python

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It is used for:

- Web development(server-side)
- Software development
- Mathematics
- System scripting

Why Python?

- Python works on different platforms (Windows, Mac, Linux, Raspberry Pi, tec).
- Python has a simple syntax similar to the English language.
- Python has syntax that allows developers to write programs with fewer lines than some other programming languages.

Python: Create Your First Program

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1. Create file **[file name].py** in your folder
2. Write **print(“Hello, World!”)**
3. Save your file
4. Open terminal or command prompt
5. Make sure you are in the directory where your file is saved
6. Run program using command **python [file name].py**
7. Congratulations, you have written and executed your first Python program!

Python: Comments

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Comments can be used to:

1. Explain Python code
2. Make the code more readable
3. Prevent execution when testing code

Comments start with a #, and Python will ignore them:

```
# This is a comment
print("Hello, World!")
```

Python: Variables

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Variables are like containers for storing data values.

Unlike other programming languages, Python has no command for declaring variables.

```
x = 5
y = "Hello, World!"
print(x)
print(y)
```

Python: Data Types

Text type : str

Number type : int, float

Boolean type : bool

Python: Data Types

String: is a sequence of characters, surrounded by either single or double quotation marks.

Int: is a whole number, positive or negative, without decimals, of unlimited length.

Float: is a number, positive or negative, containing one or more decimals.

Boolean: represent one of two values of True or False.

You can get the data type of any object by using the type()

```
x = 5
print(type(x))
```

Python: Math Operations

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Operator	Name	Example
+	Addition	x + y
-	Subtraction	x - y
*	Multiplication	x * y
/	Division	x / y
%	Modulus	x % y
**	Exponentiation	x ** y

Python: Castings

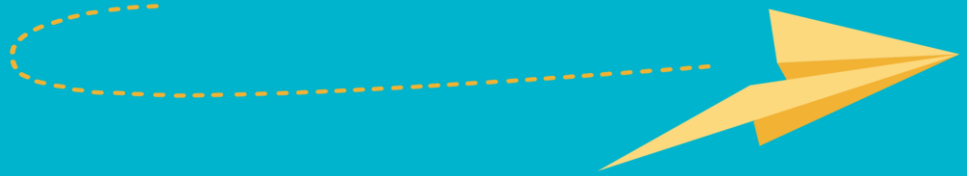
There may be times when you want to specify a type on to a variable.

- `int()` - constructs an integer number from an integer literal, a float literal (by rounding down to the previous whole number), or a string literal (providing the string represents a whole number)
- `float()` - constructs a float number from an integer literal, a float literal or a string literal (providing the string represents a float or an integer)
- `str()` - constructs a string from a wide variety of data types, including strings, integer literals and float literals

Python: Castings

```
x = int(2.8)          # y will be 2
y = float("4.2")      # w will be 4.2
z = str(3.0)          # z will be '3.0'
```

Quiz Session



Quiz

Find string, integer, float, and boolean from data types below :

1. x = “I love AI”
2. y = 1945
3. z = 71.80
4. m = True
5. n = 2*6/3 (int or float? check in your IDE!)

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Terima Kasih!

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