🌟 Convert Data Types in Python

When working with Python, you'll often need to convert data from one type to another. This process is known as type conversion or type casting.

Python offers several functions to convert data from one type to another. Here are some of the most commonly used type conversion functions:

Function	Description
int()	Converts data to an integer
float()	Converts data to a floating-point number
str()	Converts data to a string
bool()	Converts data to a boolean
list()	Converts data to a list
tuple()	Converts data to tuple
set()	Converts data to set
dict()	Converts data to dictionary

🚀String Vs Numbers

Consider these two examples: **2024 and "2024"**. At first look, they might look the same. But in Python, they represent two different types of data:

- **2024** is a number, specifically an integer.
- **"2024"** is a string because it is enclosed in double quotes.

Always remember: **if something is inside quotes, it's a string.**

String Examples	Number Examples
"456"	**485**
"0"	**0**
"99.9"	**600.85**
"Hello, Technology Channel!"	**-212**

🎉Example 1: User Input

When you take input from a user, it's always a string by default. You often need to convert this input to the appropriate type for calculations or comparisons.

```
# Taking user input for age and converting it to an integer
user_age = input("Enter your age: ")  # e.g., user enters "25"
age = int(user_age)
print(f"Your age is: {age}")
print(f"Type of age: {type(age)}")  # Output: Your age is: 25, Type of
age: <class 'int'>
```

The **int()** function converts a value to an integer.

🎉Example 2: Finance Manager

Imagine you are managing your finances and want to calculate your total expenses for the week. You have a dictionary where each day is a key, and the value is the amount spent that day as a string. You need to convert these string values to integers or floats to calculate the total and average expenses.

```
# Expenses for each day of the week as strings
expenses = {
    "Sunday": "45.50",
    "Monday": "60.75",
    "Tuesday": "39.90",
    "Wednesday": "75.25",
    "Thursday": "22.10",
    "Friday": "58.40",
    "Saturday": "33.85"
}

# Convert string values to float and calculate total and average
expenses
total_expenses = sum(float(value) for value in expenses.values())
average_expenses = total_expenses / len(expenses)

print(f"Total expenses for the week: ${total_expenses:.2f}")
print(f"Average daily expense: ${average_expenses:.2f}")
```

💡 Challenge 3: Your Age Calculator

Write a program that takes user input for year of birth (as a string) in the format 'YYYY' and finds the age of the person.