



Artificial Intelligence (Machine Learning & Deep Learning) [Course]

Week 1 - Day 2

[See examples / code in GitHub code repository]

**It is not about Theory, it is 20% Theory and 80% Practical –
Technical/Development/Programming [Mostly Python based]**

Development Environment Setup

- ☐ **Install Python**
- ☐ **Install – IDE - Visual Studio Code**
- ☐ **Install – extension for Python by Microsoft**
- ☐ **Visual Studio Code – Debugging - process**
- ☐ **Python – executable – find version**
- ☐ **Python File run by command prompt**
- ☐ **Python File run by IDE – visual studio code**
- ☐ **Python has no command for declaring a variable.**
- ☐ **Create a free ac of GitHub. Install Desktop client. Check-in code- as per name**

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Development Task

Task 1:

Print – Hello World First program

Task 2:

Print – Current version of Python programming language

Task 3:

Add comments to code

Task 4:

Create a Int variable and print

Then create a string variable and print

Task 5:

Type casting – Get a type

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Development Task

Data Types

Python has the following data types built-in by default, in these categories:

Text Type:	<code>str</code>
Numeric Types:	<code>int</code> , <code>float</code> , <code>complex</code>
Sequence Types:	<code>list</code> , <code>tuple</code> , <code>range</code>
Mapping Type:	<code>dict</code>
Set Types:	<code>set</code> , <code>frozenset</code>
Boolean Type:	<code>bool</code>
Binary Types:	<code>bytes</code> , <code>bytearray</code> , <code>memoryview</code>
None Type:	<code>NoneType</code>

Reference:

https://www.w3schools.com/python/python_datatypes.asp

<https://www.geeksforgeeks.org/python-data-types/>

<https://www.digitalocean.com/community/tutorials/python-data-types>

<https://www.programiz.com/python-programming/variables-datatypes>

Exercises



python

Development Task

Operators

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

Reference:

https://www.w3schools.com/python/python_operators.asp

<https://www.programiz.com/python-programming/operators>

<https://www.programiz.com/python-programming/operators>

<https://www.scholarhat.com/tutorial/python/operators-of-python>

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Exercises



Development Task

String Function

Method	Description
<code>capitalize()</code>	Converts the first character to upper case
<code>casefold()</code>	Converts string into lower case
<code>center()</code>	Returns a centered string
<code>count()</code>	Returns the number of times a specified value occurs in a string
<code>encode()</code>	Returns an encoded version of the string
<code>endswith()</code>	Returns true if the string ends with the specified value
<code>expandtabs()</code>	Sets the tab size of the string
<code>find()</code>	Searches the string for a specified value and returns the position of where it was found
<code>format()</code>	Formats specified values in a string
<code>format_map()</code>	Formats specified values in a string
<code>index()</code>	Searches the string for a specified value and returns the position of where it was found
<code>isalnum()</code>	Returns True if all characters in the string are alphanumeric

Reference:

https://www.w3schools.com/python/python_strings_methods.asp

<https://www.geeksforgeeks.org/python-string-methods/>

<https://www.wscubetech.com/resources/python/strings>

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Exercises



Development Task

Take Input

```
username = input("Enter username:")  
print("Username is: " + username)
```

Exercises

Reference:

<https://www.geeksforgeeks.org/taking-input-in-python/>

<https://www.digitalocean.com/community/tutorials/how-to-receive-user-input-python>

https://www.w3schools.com/python/python_user_input.asp

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Development Task

Type-Casting

Casting in python is therefore done using constructor functions:

- `int()` - constructs an integer number from an integer literal, a float literal (by removing all decimals), 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

Exercises

Reference:

https://www.w3schools.com/python/python_casting.asp

<https://www.geeksforgeeks.org/type-casting-in-python/>

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Thank you - for listening and participating

- ☐ Questions / Queries
- ☐ Suggestions/Recommendation
- ☐ Ideas.....?

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