1.

Introduction to programming and python

Welcome!

Welcome to the Python Hero Academy.

In this course, you'll learn programming with python from basics to advanced. Take a ***real college-like*** course without the limitations of one!

q1.py

```python
class Course:
    def __init__(self, name , language):
        print("Hello {} !".format(name))
        self.name = name
        self.language = language

    def ready(self):
        self.begin()

    def begin(self):
        #Lets Start!

if __name__ == "__main__":
    i = input()
    mylist = [x ** 3 for x in range(3)]
    for j in range(0 , 3):
        mylist.append(29)

    Welcoming_sentence = " Welcome to this Course! 12345"

    for letter in Welcoming_sentence:
        if letter in "0123456789":
            continue
        else:
            print(letter , end = "")

    MyCourse = Course("My Name" , "Python")
    MyCourse.ready()
```

“Everybody should learn how to program a computer, because it teaches you how to think.”

—Steve Jobs

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What is a programming language?

A very simple description of what programming languages are

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What they are and a simple comparison between them

What is a programming language?

- A language (like any other languages)
- Contains vocabulary and grammar rules
- Many different divisions for programming languages such as
  - High level vs Low level languages
  - Compiled vs Interpreted
  - Imperative vs Declarative
  - Functional Programming Language, Object-oriented Programming Language, Logic Programming Language and etc.

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High level vs low level languages

High level languages

1. Closer to our understanding
2. Easier to work with
3. Slower because Must be translated to low level languages
4. Java, C++, Python and etc.
5. They’re divided to two groups
    - Interpreted languages
    - Compiled languages

Low level languages

1. mostly describes machine’s functionality
2. Assembly or any machine’s code.

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Interpreted vs Compiled languages

- A bit vague… → A language can be translated by both methods
- Each language → originally designed to be translated by one of them
- Both high level
- In a compiled language:
  - The target machine directly translates the program
- In an interpreted language:
  - The source code is not directly translated
  - Another program, aka the interpreter, reads and executes the code
- Ancient Greek translator example

Interpreted vs Compiled languages

- An Interpreted language compared to a Compiled one is:
  - Slower (➖)
  - Less efficient(➖)
  - Gives less control over memory and processing unit(➖)
  - Easier to use(➕)
  - Easier to understand and design algorithms (➕)

✔ Python is a high-level Interpreted language.

Thanks!

Got any questions or suggestions?

Here's some contact info:

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