Python Alpha 1000a

Classes in Python

AL NAFI,
A company with a focus on education,
wellbeing and renewable energy.

Forty Hadith on the importance of Knowledge, learning and Teaching.

Hadith # 7 Education

Ibn'Abbas narrated, the messenger of Allah peace be upon him said:

"Teach! Make things easy! And do not make things complicated! He (peace be upon him) repeated this three time, then he added:
And if you get angry, keep quiet!

(Ibn Hajr, al-'Asqalani, al-Matalib al-Aliyah; at-tayalisi; Ibn Hanbal; Ibn Abi Shaibah)

Hadith # 7 continued

Al-Bukhari narrated it on the authority of Anas, as follows:

"Make things easy! Do not make them complicated! Be Cheerful! And do not be repulsive!"
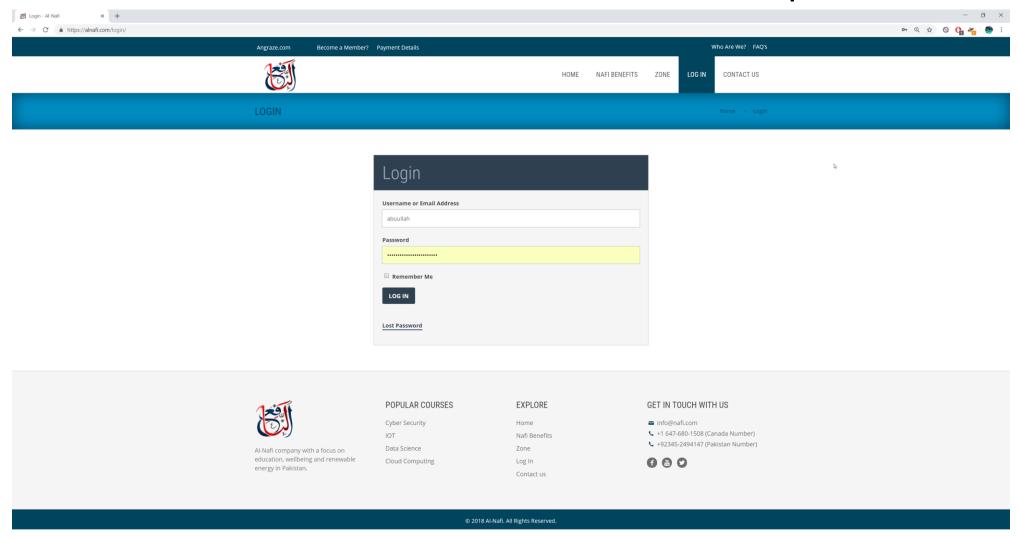
Ahmad Ibn Hanbal narrated it as follows:

"Teach and give good tidings! Make things easy, and do not make them hard!"
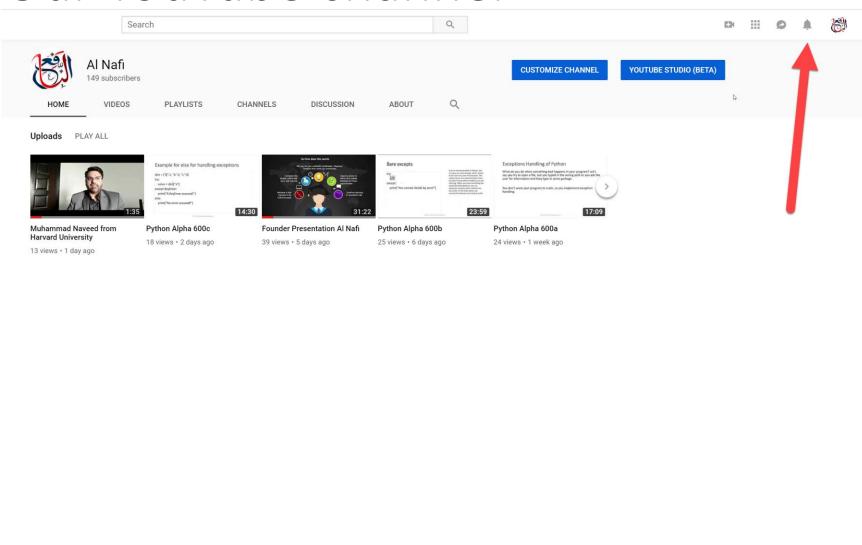
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Classes

In Python everything has method and values. This is known as a class. A class is the blueprint of an object.

Lets try this:

x = "alnafi"

dir(x)

So what does dir(x) shows us!

When we have a string assigned to the variable x. The dir shows us how many methods are there.

There are 71 methods here!

Normally we do not call methods that start with underscores directly so that reduces the total count to 38.

This means that string is based on a class and x is an instance of that class!

Python 2 vs. Python 3

All of you are using Anaconda which is running python 3. but Python 3 is also backward compatible with Python 2 ☺ so if you run any code of python 2 which uses a slightly different syntax things will still run ☺

Lets jump into some code testing shall we!

Creating a class in python 2

Creating a class in Python 2:

```python
class Vehicle(object):
    """docstring"""
    def __init__(self):
        """Constructor"""
        pass
```

Code explanation:

class is a keyword we use in python 2 followed by the name of the class which in this case Vehicle. The first letter is always capital. object requires a () parentheses. Classes have a special method __init__ (this is required for initialization). The __init__ is a constructor

Creating a class in python 3

class Vehicle:
   """docstring"""
   def __init__(self):
      """Constructor"""
      pass

The only difference is that in Python 3 we no longer need the parentheses.

Side by Side code comparasion of Class in python 2 and python 3

Creating a class in Python 2:

Creating a class in Python 3:

```python
class Vehicle(object):
    """docstring"""
    def __init__(self):
        """Constructor"""
        pass
```

```python
class Vehicle:
    """docstring"""
    def __init__(self):
        """Constructor"""
        pass
```

Now lets run some code!

```python
class Vehicle(object):
    """docstring"""
    def __init__(self, color, doors, tires):
        """Constructor"""
        self.color = color
        self.doors = doors
        self.tires = tires

    def brake(self):
        """
        stop the car
        """
        return "Braking"
    def drive(self):
        """
        Drive the car
        """
        return "I'm driving!"
```

What is self in Python?

We will cover this in our next lecture inshAllah!

جزاك اللهُ

To ask questions, please logon to the portal https://alnafi.com/login/ and use your username and password. We will circle back to you in 2-3 business days inshAllah.