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Course: IT FDN 110A

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Classes and Objects

Introduction

This week, we explore classes in detail, the concept of class inheritance and learn about constructor, attribute and properties.

Steps to complete the assignment

Step 1: Read the file "Mod07-Notes" and watch the demonstration videos on the Canvas Module page.

Step 2: Watch reference videos

Step 3: Read about module topics

Step 4: Create a Python script

- Open file in PyCharm
- Create new file named Assignment07.py
- Add the script header
- Upgrade script
- Create and define a class called Person, which will show the information about student. There are two variables inside class Person including fitst_name and last_name and they are stored in the class.

```python
class Person:

    def __init__(self, first_name:str = "", last_name:str = ""):
        self.first_name = first_name
        self.last_name = last_name
```

Figure1: Define Person class

- Define first_name and last_name in the constructor method (__init__) using the keyword "self".
- Get and access data while formatting data in title case.
- Create setter property functions to add error handling and manage attributes.

```python
@property
def first_name(self):
    return self._first_name.title()

@first_name.setter
def first_name(self, value:str):
    if value.isalpha() or value =="":
        self._first_name = value
    else:
        raise ValueError("The first name should not contain numbers.")

@property
def last_name(self):
    return self._last_name.title()
@last_name.setter
def last_name(self, value:str)
    if value.isalpha() or value =="":
        self._last_name = value
    else:
        raise ValueError("The last name should not contain numbers")

def _str_(self):
    return f"{self.first_name},{self.last_name}"
```

Figure2: Processing class

Conclusion

Creating and exploring classes allow us to organize data and process data effectively.