Python for Selenium

Agenda

- OOP – Polymorphism
- Overriding & Overloading
- OOP – Encapsulation
- Abstract Classes

What is polymorphism?

- Sometimes an object comes in many types or forms.
- If we have a button, there are many different draw outputs (round button, check button, square button, button with image) but they do share the same logic: onClick().
- We access them using the same method . This idea is called *Polymorphism*.

Method overriding

- **Override** means having two methods with the same name but doing different tasks.
- It means that one of the methods overrides the other.
- If there is any method in the superclass and a method with the same name in a subclass, then by executing the method, the method of the corresponding class will be executed.

Method overloading

- In Python you can define a method in such a way that there are multiple ways to call it.
- Given a single method or function, we can specify the number of parameters our self.

What is Encapsulation?

- In an object oriented python program, you can *restrict access* to methods and variables.
- This can prevent the data from being modified by accident and is known as *encapsulation*.
- Encapsulation can be achieved using **private variables** and **private methods**.

Scope of private variables & methods

Type	Description
public methods	Accessible from anywhere
private methods	Accessible only in their own class. starts with two underscores
public variables	Accessible from anywhere
private variables	Accessible only in their own class or by a method if defined. starts with two underscores

Abstract Class

- Abstract classes are classes that contain one or more abstract methods.
- An abstract method is a method that is declared, but contains no implementation.
- Abstract classes cannot not be instantiated, and require subclasses to provide implementations for the abstract methods.
- Subclasses of an abstract class in Python are not required to implement abstract methods of the parent class.