**What is Page Object Model?**

Page Object Model is about developing an object repository. It’s a design pattern which has become popular for enhancing test maintenance and reducing code duplication.

**Why do we need page object model?**

This is mainly for test maintenance and eliminate code duplication.

Normally, when we do selenium scripts, we do it like

Driver.findElement(By.id(“firstname”)).sendKeys(“Subbu”);

If it is only one script that should be fine. But let’s say you have developed 1000 scripts and all of them contain the above statement. Now if the developers changed the application and they changed the id of the element “firstname” to “fstname” and all of your scripts fail. If you want to make them work, you need to change the id in your script from “firstname” to “fstname” in all of those 1000 scripts which is very time consuming.

But if you have a single place where you can change it just once, that would be very good and it won’t be time consuming for you to make the scripts up and running. This is achieved by page object model.

**How page object model is achieved in selenium automation?**

* Under this model, for each webpage in an application, there will be a corresponding Objects page.
* We will put each object in a method on the objects page and the method name will be given in a way that it is very easy to under what we are doing.
* The object pages will find the webelements of the page.

If change is required for any of the webelement, we will just change it in the objects page.

**What are the advantages of page object model?**

* Easy to maintain – Even if the webelement changes we will just change it in the objects page.
* Easy Readability of scripts – Since the method’s names are given in such a way that they represent what operation we are doing, if any new tester comes in he can easily understand the scripts.
* Reduce or Eliminate Duplicacy – Since we are capturing all the elements in an object page, the element will be defined only once so it eliminates the duplicacy.
* Re-Usability of code – We can create object for the objects pages and we can reuse them.

**Is Page object model a framework?**

Page Object Model is a Design Pattern

**What is Page Factory?**

Page Factory is an inbuilt page object model concept for Selenium Web Driver, but it is much optimized. Page Object Factory provides an annotation @FindBy which makes identification of web elements much easier.

**How do you initialize page object factory?**

PageFactory.*initElements*(driver, this);

**What is the difference between Page Object Model (POM) and Page Factory?**

Page Object is a class that represents a web page and hold the functionality and members.

Page Factory is a way to initialize the web elements you want to interact with within the page object when you create an instance of it.