1. **Briefly explain about POM framework?**

POM:
- ➢ Page Object Model
- ➢ POM is an object repository design pattern in selenium webdriver
- ➢ POM creates our testing code maintainable and reusable
- ➢ Page factory is an optimized way to create object repository

POM Steps & Rules:

- ➢ Create a maven project/java project
- ➢ We have to create 3 source folders(packages)

1. Src/main/java
  - ➢ It contains POM information (i.e) locators of every page in separate class

2. Src/test/java (Junit,TestNG)
  - ➢ It contains login, asserts & registration

3. src/resources/java
  - ➢ It contains reusable methods/codes. Ex, browser coding, radio button, scroll down and etc.

2. **Difference between implicit wait and explicitly wait?**
   Implicit wait:
   - ➢ It applicable for all elements
   - ➢ The implicit wait will tell to the web driver to wait for certain amount of time before it throws a "No Such Element Exception"
   - ➢ Once we set the time, web driver will wait for that time before throwing an exception.

   Syntax:

   driver.manage().timeouts().implicitlyWait(time, TimeUnit.SECONDS);

   Ex:

   driver.manage().timeouts().implicitlyWait(10, TimeUnit.SECONDS);

   Explicit wait:
   - ➢ The explicit wait is used to tell the Web Driver to wait for particular element to certain conditions (Expected Conditions) or the maximum time exceeded before throwing an exception.

➢ The explicit wait is an intelligent kind of wait, but it can be applied only for specified elements.
➢ Explicit wait gives better options than an implicit.
➢ Once we declare explicit wait we have to use "ExpectedCondtions" or we can configure how frequently we want to check the condition using Fluent Wait.

Syntax:

WebDriverWait wait = new WebDriverWait(driver,time);

3. **How to use constructor in your project?**
➢ We use constructor in POM class. Default constructor with pagefactory used to initialize the value.
➢ Page factory is an optimized way to create object repository

4. **what is mean by cucumber.**
• It's a Behavior Driven Development test tool (BDD).
• Cucumber is a software tool used by computer programmers used for testing the developed software's.
• It runs automated acceptance test written in BDD.

• Cucumber is a tool based on Behavior Driven Development (BDD) framework which is used to write acceptance tests for web application. It allows automation of functional validation in easily readable and understandable format (like plain English) to Business Analysts, Developers, Testers, etc.

• Cucumber feature files can serve as a good document for all. There are many other tools like JBehave which also support BDD framework. Initially Cucumber was implemented in Ruby and then extended to Java framework. Both the tools support native JUnit.

• Behavior Driven Development is extension of Test Driven Development and it is used to test the system rather than testing the particular piece of code. We will discuss more about the BDD and style of writing BDD tests.

• Cucumber can be used along with Selenium, Watir, and Capybara etc. Cucumber supports many other languages like Perl, PHP, Python, .Net etc. In this tutorial we will concentrate on Cucumber with Java as a languag

Things needed for Cucumber:

1. Feature file → It consists of scenarios.
2. Step definition file→ It consists of coding part (java +selenium).
3. Test runner class→ It consists of Feature files.

.   .

5. **what is mean by scenario out line.**

- **Scenario**: Scenario describes the steps and expected outcome for a particular test case.
- **Scenario Outline**: Same scenario can be executed for multiple sets of data using scenario outline. The data is provided by a tabular structure separated by (I I).

6. **What is the use of maven**

➢ Maven is build management tool, It will helps you to manage your selenium project's build easily.
➢ It is build management tool and it will manage your selenium test project's build compilation, documentation and other related project tasks itself.
➢ Maven uses POM.xml configuration file which kept all project configuration related Information. For selenium, You need to provide selenium webdriver version related Information In POM.xml file and then It will download all required jar files automatically and store It in local repository called m2.
➢ Later on if you want to change version of selenium webdriver then you need to modify version In POM.xml file only.
➢ Then maven will download new version jar files automatically and store in local repository.
➢ That means if you upgrade any dependency's version In POM.xml file, First It will check that version's jar files are available or not In local repository. If available then fine else it will download them from maven central repository.

7. **How to add external jar in maven.**
1. We add external jars in pom.xml

8. **Write the code for maven dependency.**

Sample code for selenium jar

<dependency>

  <groupId>org.seleniumhq.selenium</groupId>

```
<artifactId>selenium-java</artifactId>

<version>3.4.0</version>

</dependency>
```

9. **How will you select drop down** ?
   - Using 3 ways we can select the drop down,
     1.Select by index
     2.Select by value
     3.Select by visibleText