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# QA Automation
## Locators. Requirements. Environment.

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# HTML

# HTML

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Hypertext Markup Language (HTML) is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript.

# HTML Tags

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Page base (Tags: <html>, <head>, <body>)
Page title (Tags: <title>)
Headers (Tags: <h1>, <h2>, <h3>, <h4>, <h5>, <h6>)
Paragraphs (Tags: <p>)
Image (Tags: <img>)
Line brake (Tags: <br />)
Horizontal line (Tags: <hr />)
Hyperlink (Tags: <a>)
Lists (Tags: <ul>, <ol>, <li>)
Containers (Tags: , )
Table (Tags: <table>, <tr>, <td>, <th>)

# Locators

# Locator Types

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**Simple**

Id
Name
Class
LinkText
PartialLinkText
TagName

**Complex**

CSS
XPath

# Simple Locators

Easy to write
Support
Performance

# Complex Locators

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When there is no way to use simple
Item need to be searched by position (table)
Search by multiple item attributes
Search relative to other items

# CSS Selectors

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*– find any element

**button**– find all elements with tag button

**#myid**– find element with id=myid

**.myclass**– нfind element with class=myclass

**div[attribute='value']**–find element div with an attribute 'value'

**div button**– find a child of a button inside a div at any nesting level

More here:

http://www.w3schools.com/cssref/css_selectors.asp

# Xpath

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/ - move to level 1
// - transition to several levels
//* - search for any item at any level
// div - search div at any level
/..– rise to level
**//div/button** – find the button next to the div
**//button[2]** - find the second buttons (following the button)

# Xpath

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**//*[@id= ‘myid’]** - find an element on the page with id = myid
**//*[text()=‘some’]** - find an element with some text
**//*[contains(@id, ‘123’)]** - find the element whose id contains 123
**//*[@name!='Bob']** - find the element with the name NOT Bob
**//*[@class=‘a 'and @name=‘b’]** - example AND
**//*[@class=‘a‘ or @name=‘b’]** - OR example

**http://www.w3schools.com/xsl/xpath_syntax.asp**

# OOP Principles

# OOP Principles

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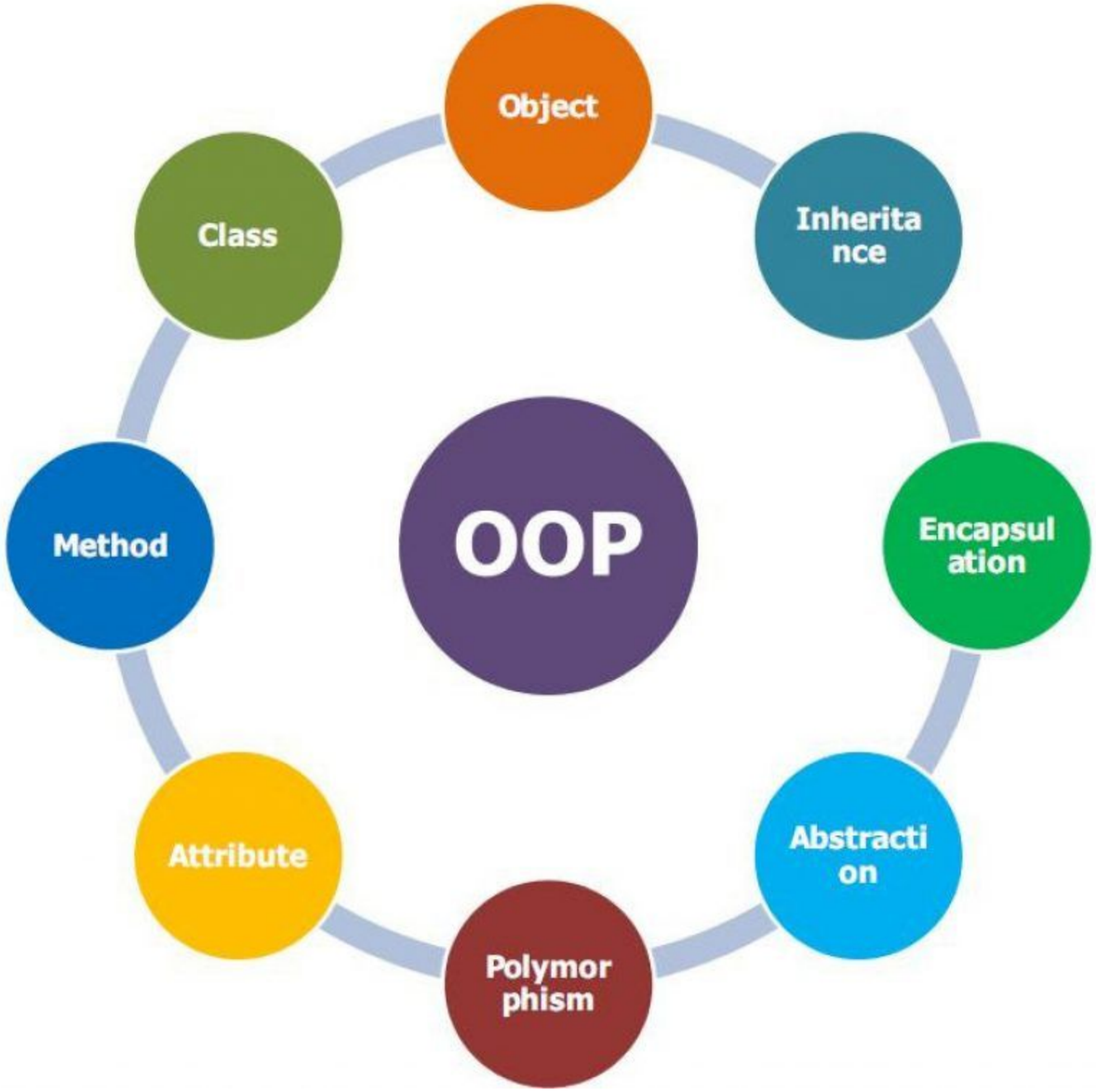

# OOP Principles

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1. **Encapsulation**
2. Abstraction
3. Inheritance
4. Polymorphism

```
public class Employee {
  private String name;
  private Date dob;
  public String getName() {
     return name;
  }
  public void setName(String name) {
     this.name = name;
  }
  public Date getDob() {
     return dob;
  }
  public void setDob(Date dob) {
     this.dob = dob;
  }
}
```

# OOP Principles

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1. Encapsulation
2. **Abstraction**
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4. Polymorphism

```
public abstract class Employee {
  private String name;
  private String address;
  private int number;

  public abstract double
computePay();
  // Remainder of class definition
}
```

# OOP Principles

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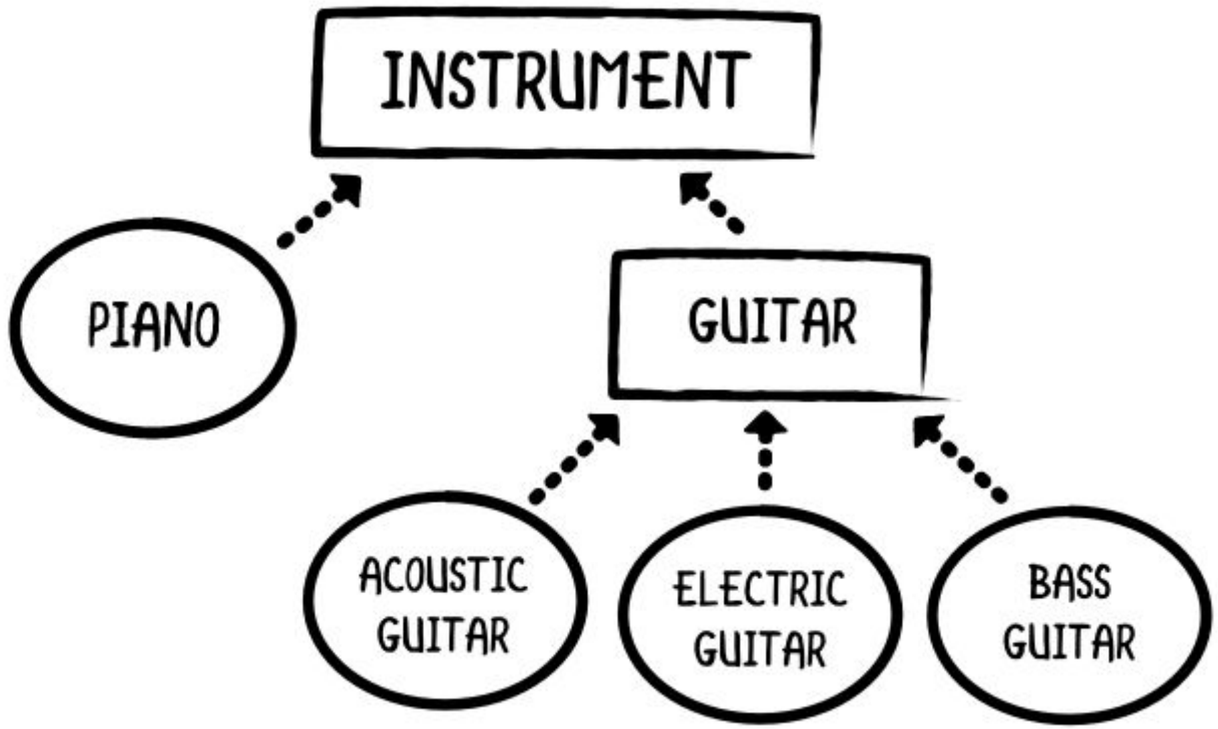

# OOP Principles

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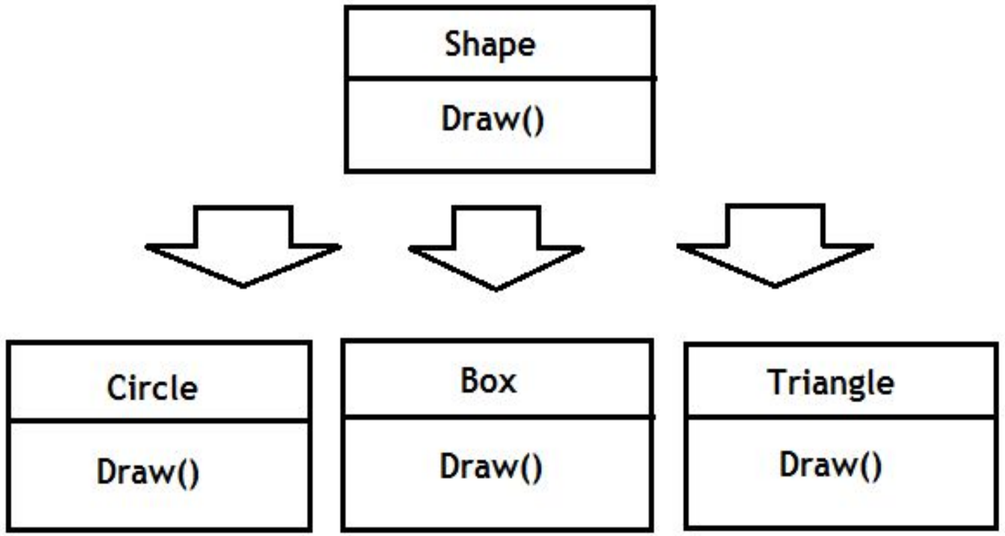

# Java Basics

# Java Basics

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- Variables and methods
- Operators and data types (int, double, boolean, Strings etc)
- Modifiers (private, protected…; final, static, abstract)
- Loops (for, while, do-while)
- If-else, switch-case statements
- Collections (ArrayList, HashMap, HashSet etc)
- Exceptions (try/catch/throw/finally)
- Stream Filters with Lambda Expressions

# Environment

# Java

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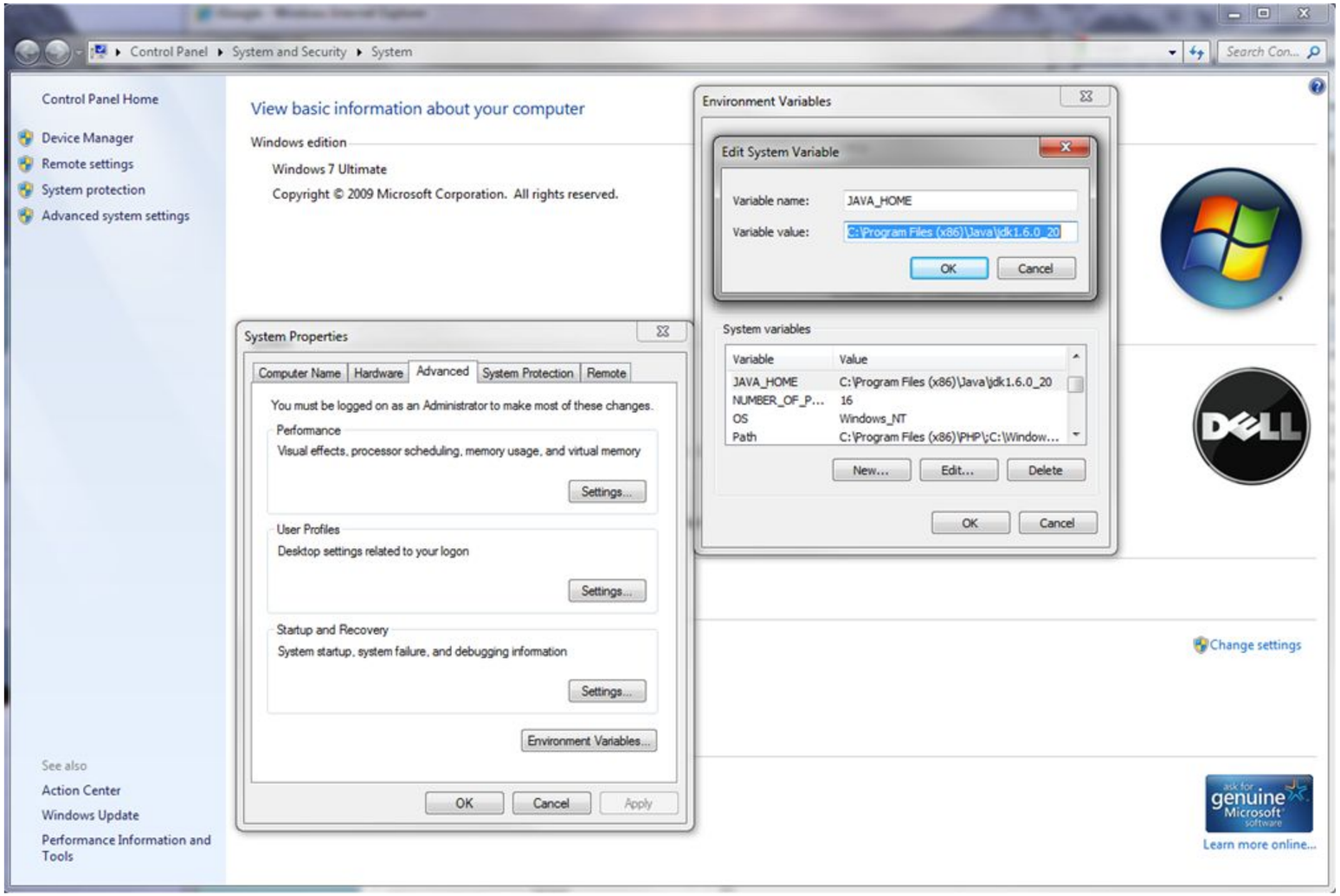
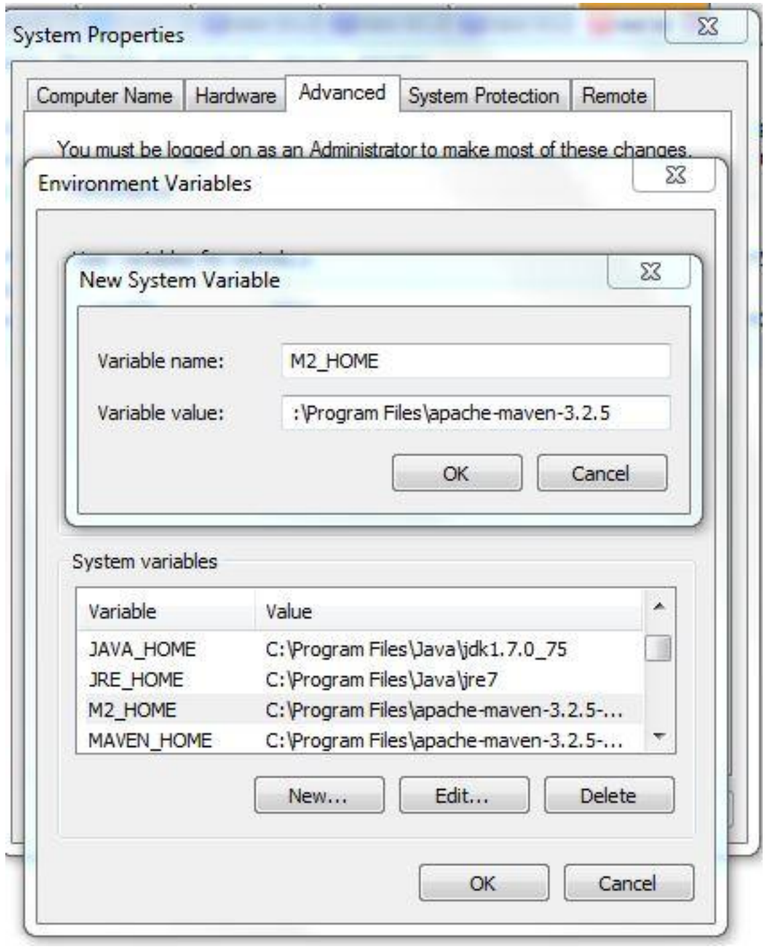
- Download and install Java Development Kit 8+
- Set JAVA_HOME as environment variable (see pic).



# Maven

- Download and install Maven
- Set M2_HOME as environment variable (see pic).



# Intellij IDEA

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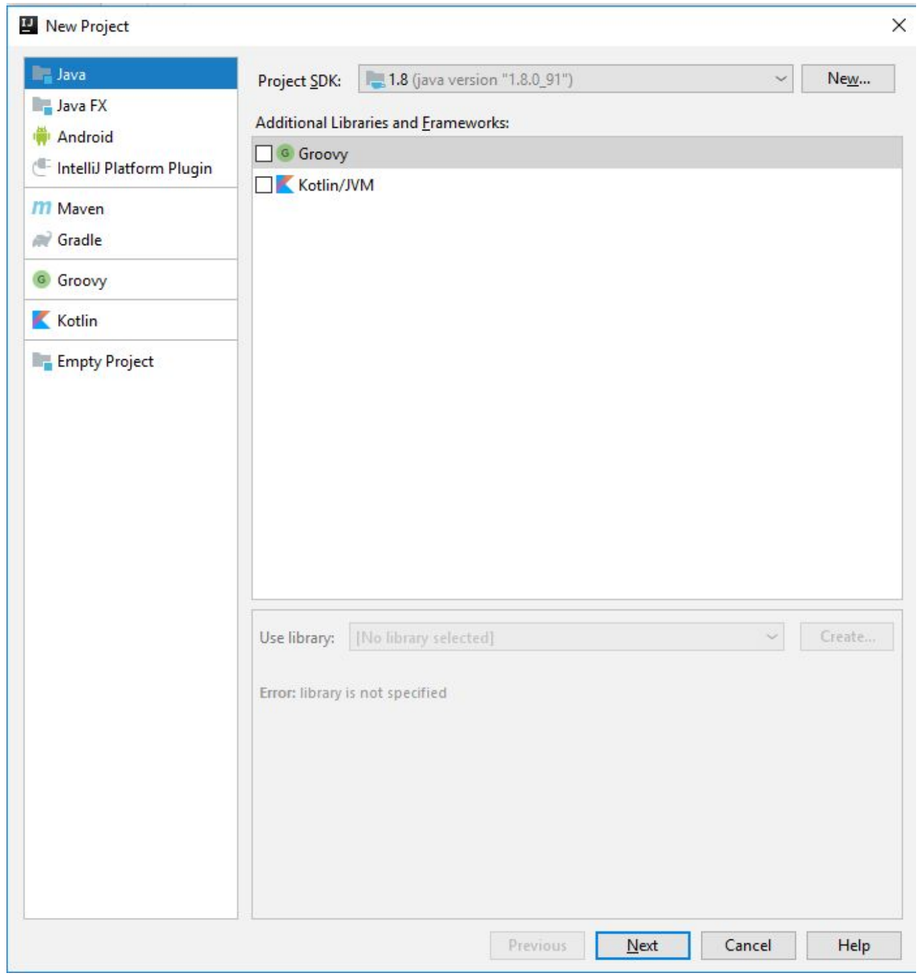
- Download **Community** version of IntelliJ IDEA.
- Open IntelliJ IDEA and create a new Maven Project.



# Dependencies

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- Search for TestNG and Selenium dependencies on https://mvnrepository.com
- Choose latest version
- Copy provided xml and paste it in pom.xml
- Download chromedriver

# TestNG

# Annotations

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@BeforeClass

@BeforeMethod

@BeforeTest

@Test

@AfterMethod

@AfterClass

@AfterTest

# Assertions

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```
assertTrue(logo.isDisplayed());
assertFalse(logo.isDisplayed());
assertEquals(“Expected text”, “Actual text”)
assertNotEquals(“Expected text”, “Actual text”)
assertNull(value)
assertNotNull(value)
```

# QUESTIONS?