



AiNS Computer Institute

AUTO MATI ON

"Unlock the Power of
Precision: Master
Automation Testing Today!"



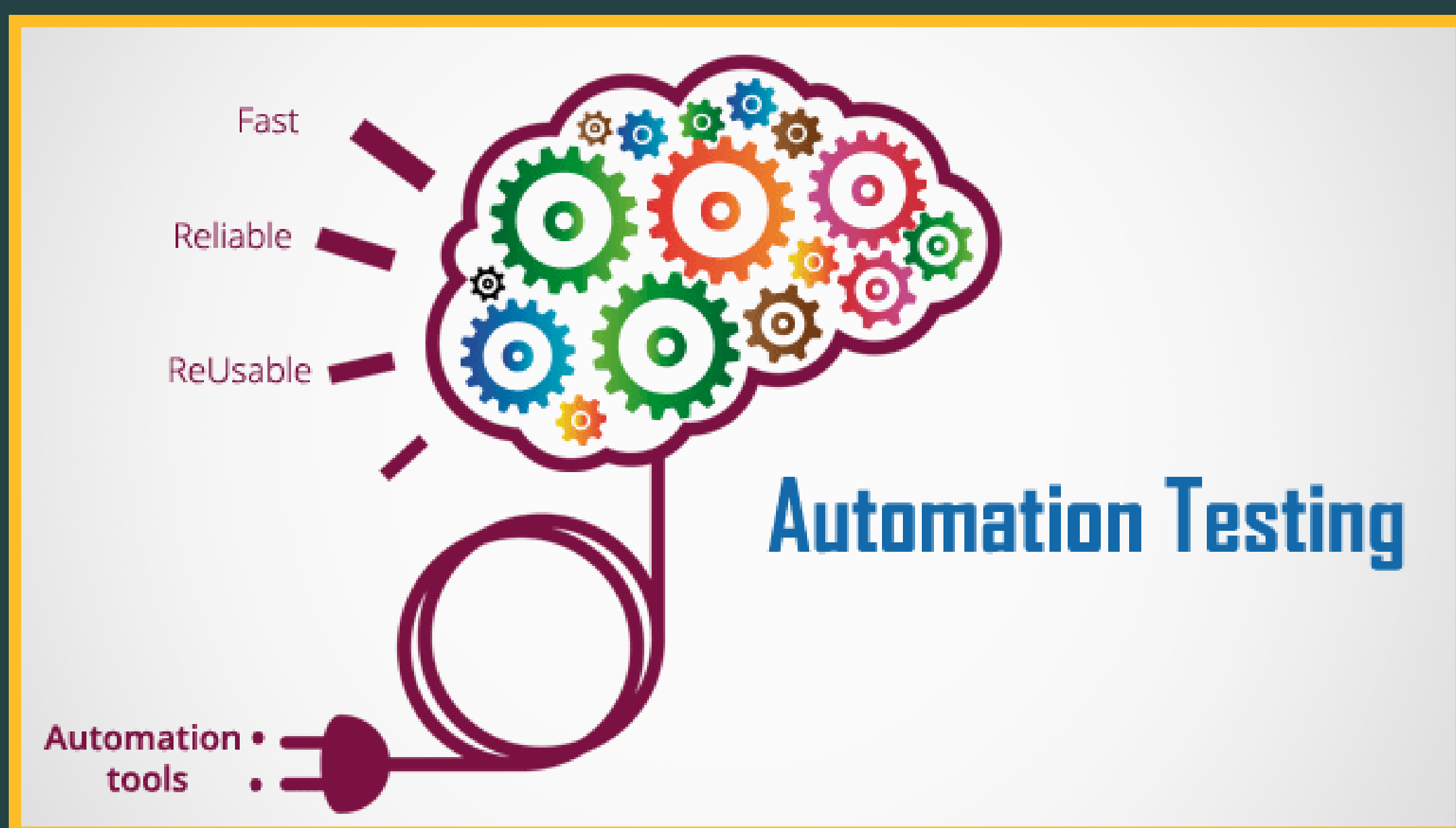
TESTING

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ainscomputerinstitute.com

What is Automation Testing?

Automation testing is a method of using software tools and scripts to perform tests on software applications. It increases efficiency by executing predefined test cases automatically, ensuring consistent and reliable results. This approach is especially useful for regression testing, where it verifies that recent changes haven't affected existing functionality. Automation testing integrates with development pipelines, enhancing the quality and speed of software delivery.



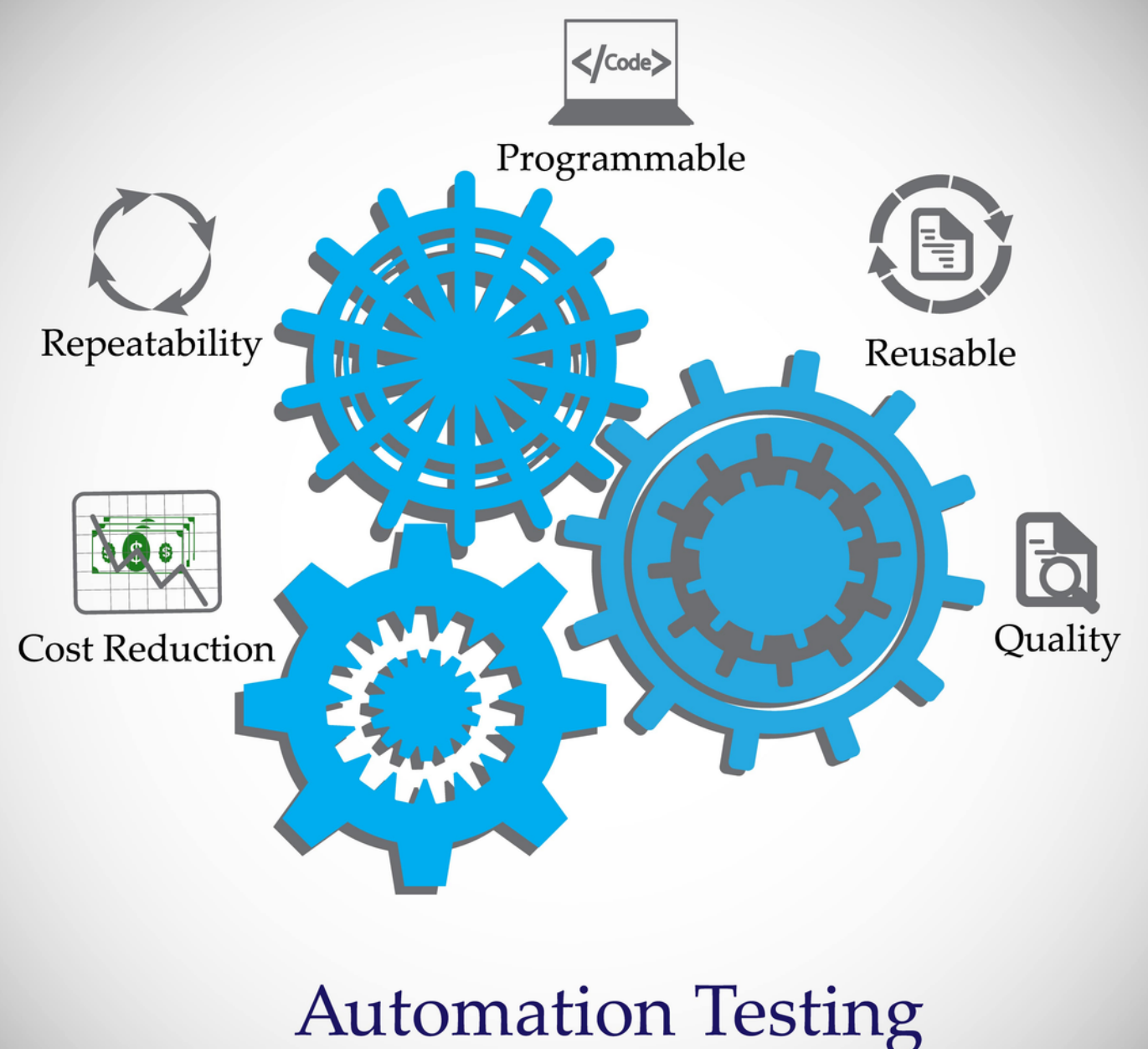
Who are supposed to pursue Automation Testing?

- 1. **Software Testers/QA Engineers:**** Professionals with a background in software testing often specialize in automation testing to improve efficiency and coverage of testing processes.
- 2. **Developers:**** Developers may also engage in automation testing, especially for unit testing and integration testing, to ensure the reliability of their code.
- 3. **Quality Assurance (QA) Managers:**** QA managers oversee testing processes and may encourage or lead initiatives to implement automation testing within their teams to streamline workflows and improve product quality.
- 4. **DevOps Engineers:**** DevOps engineers may utilize automation testing as part of their efforts to automate software development and deployment pipelines, integrating testing seamlessly into the continuous integration/continuous deployment (CI/CD) process.
- 5. **Software Development Teams:**** Entire software development teams may adopt automation testing practices to ensure that code changes are thoroughly tested and validated, leading to more reliable software releases.
- 6. **Organizations with Agile/Scrum Practices:**** Companies following agile or scrum methodologies often incorporate automation testing to support the rapid iterations and frequent releases characteristic of these development approaches.

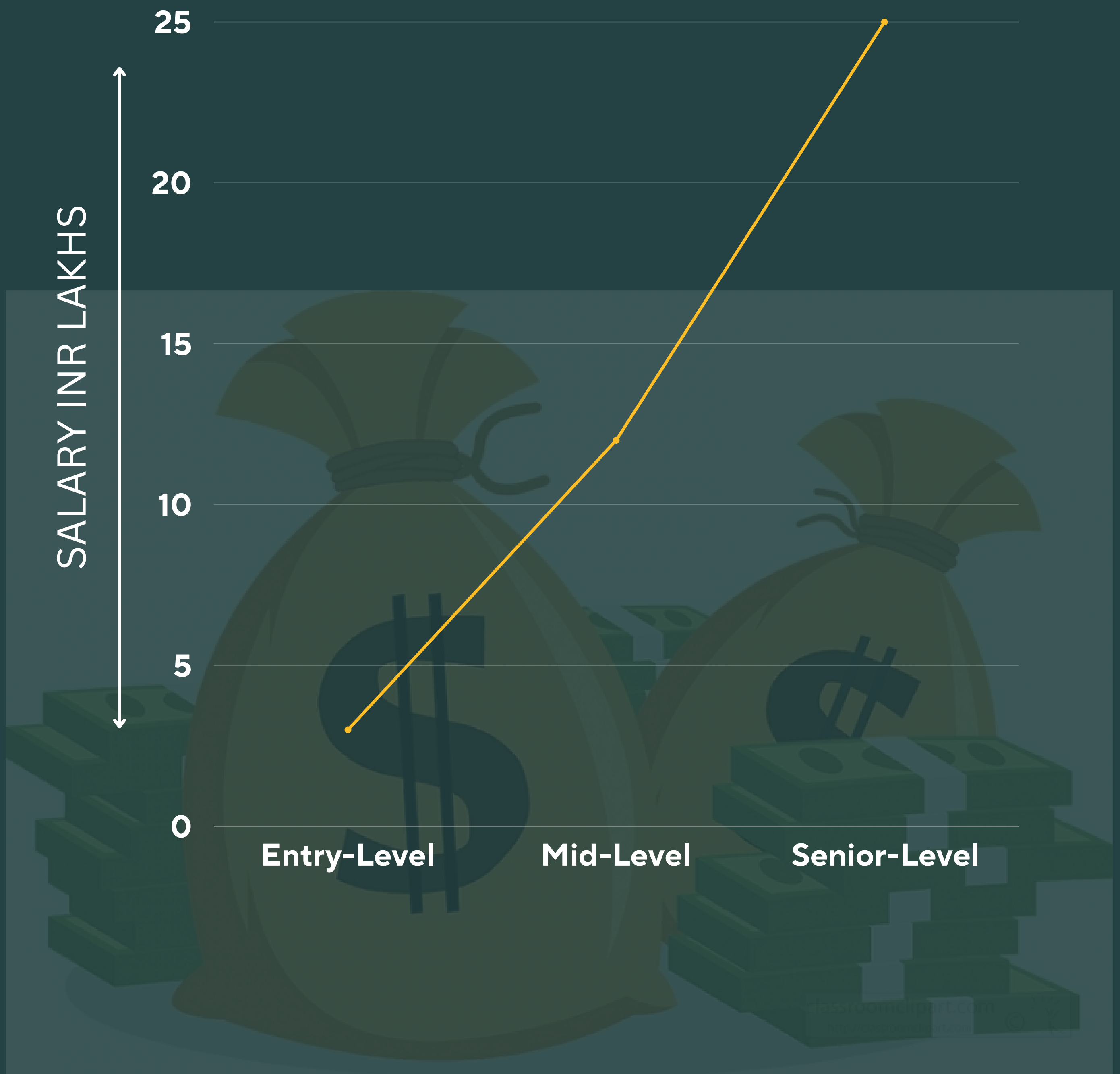


DEMAND?

- **Rapid Software Development:** With the increasing pace of software development and deployment, there's a growing need to automate testing processes to ensure timely releases without compromising quality.
- **Cost Efficiency:** Automation testing offers cost savings in the long run by reducing the need for manual testing efforts, leading to increased efficiency and productivity.
- **Quality Assurance:** Automation testing helps improve the overall quality of software products by enabling thorough and consistent testing across different environments and configurations.
- **Industry Standards:** Many industries, including finance, healthcare, e-commerce, and telecommunications, have stringent quality standards and regulations, driving the demand for robust testing methodologies like automation testing.
- **Shift Left Approach:** The adoption of the "shift left" approach in software development, where testing is integrated earlier in the development lifecycle, emphasizes the importance of automation testing to catch bugs and defects early on.
- **Emerging Technologies:** The proliferation of emerging technologies such as cloud computing, IoT (Internet of Things), AI (Artificial Intelligence), and mobile applications has increased the complexity of software systems, necessitating efficient and scalable testing solutions like automation testing.



SALARY EXPECTATIONS



Globally (Approximate ranges in USD):

1. Entry-Level (0-2 years of experience): \$50,000 to \$80,000 USD **per annum**
2. Mid-Level (2-5 years of experience): \$80,000 to \$120,000 USD **per annum**
3. Senior-Level (5+ years of experience): \$120,000 to \$150,000+ USD **per annum**

TOP COMPANIES HIRING

Infosys



DELL

vmware

IBM

ORACLE

WELLS
FARGO

Honeywell

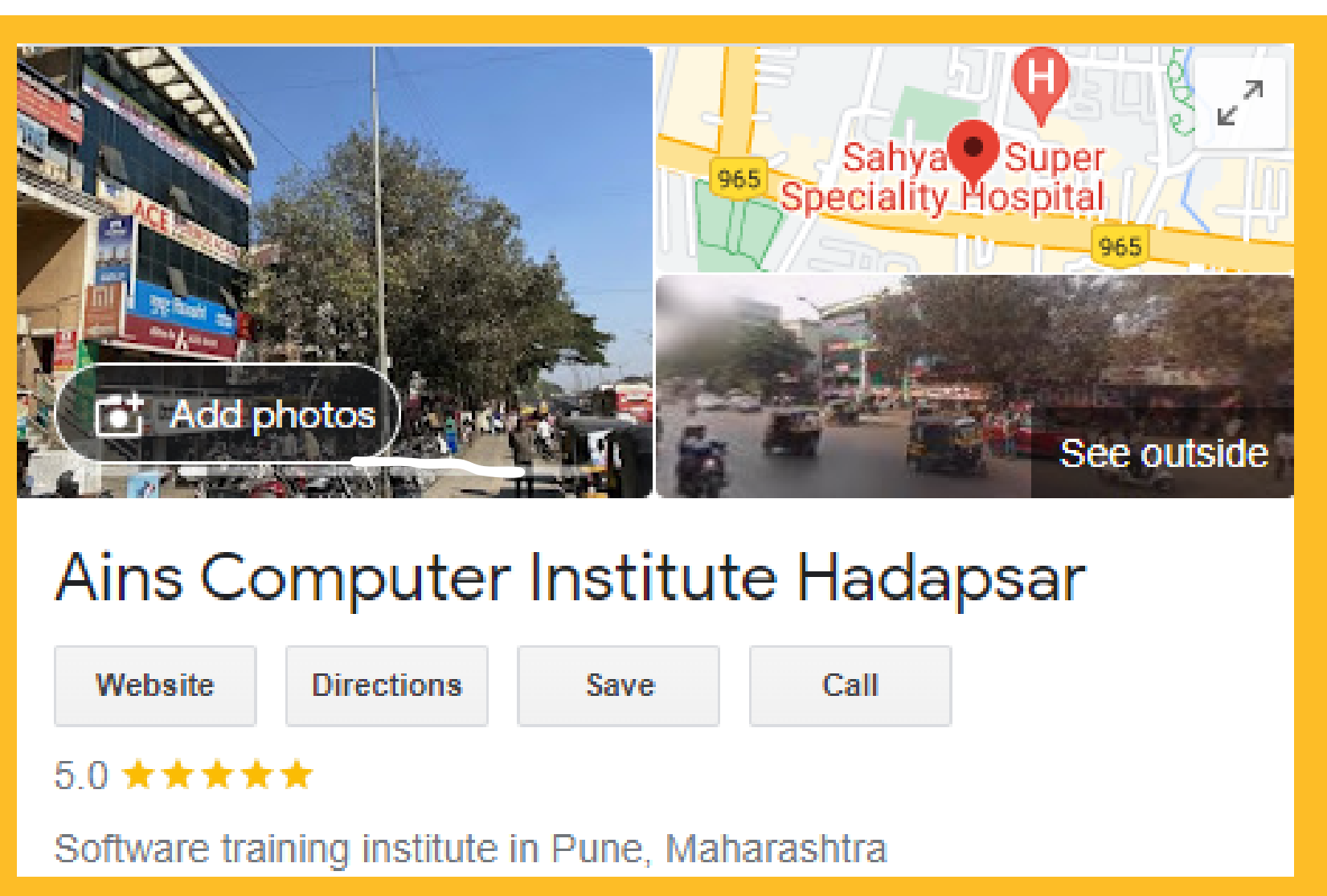


WHY AiNS?



AiNS Computer Institute is the top choice for automation testing courses due to its:

1. Comprehensive curriculum.
2. Experienced faculty.
3. Hands-on training.
4. Industry recognition.
5. Placement assistance.



BENEFITS at AiNS



- 1 **Expert Faculty**
- 2 **Industry-Relevant Curriculum**
- 3 **Career Guidance & Opportunities**
- 4 **Recognized ISO Certification**
- 5 **Real-World Data Analysis Projects**
- 6 **Access to Premium Tools and Datasets**
- 7 **Get Interview Ready & Resume Building**
- 8 **100% Job Assistance**



Certificate of Completion

This Certificate is presented to SAMPLE for successfully completing

his/her course in SAMPLE by securing 99%

We wish him/her success in life.

*(This percentage is based on student's Practical
& Written examination)*

Digitally signed by

Nasir Hassan Nasir Hassan Khan

Khan
Date: 2024.03.16
16:08:40 +05'30'



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AUTHORISED SIGNATORY
DIRECTOR

OUR CERTIFICATION:

ISO course certification offers several advantages:

1. **International Recognition:** ISO certifications are globally recognized, demonstrating compliance with international standards and best practices.
2. **Enhanced Credibility:** Certification enhances the credibility and reputation of the organization, instilling confidence in customers, stakeholders, and partners.
3. **Improved Efficiency:** ISO standards often focus on improving processes, leading to increased efficiency, reduced waste, and cost savings.
4. **Market Access:** Certification can provide easier access to new markets, as many contracts and tenders require ISO certification as a prerequisite.
5. **Risk Management:** ISO standards help identify and mitigate risks, ensuring better management of potential threats to the organization.
6. **Customer Satisfaction:** Compliance with ISO standards often leads to higher customer satisfaction due to improved quality and consistency of products or services.
7. **Competitive Advantage:** Certification can give a competitive edge by demonstrating commitment to quality, safety, and environmental responsibility.
8. **Legal Compliance:** ISO standards often align with legal requirements, ensuring compliance and reducing the risk of penalties or legal issues.
9. **Continuous Improvement:** ISO certification encourages a culture of continuous improvement, leading to ongoing refinement of processes and performance.
10. **Employee Morale:** Employees often take pride in working for a certified organization, leading to increased morale and motivation.

value

adding

SYLLABUS CONTENT:



**AUTOMATION IN
SELENIUM WITH C#**



**AUTOMATION IN
SELENIUM WITH PYTHON**



**AUTOMATION TESTING WITH
SELENIUM WEBDRIVER(JAVA)**



**Selenium
Automation
Testing**



Automation in selenium with C#

Basics of Selenium

- ❖ Introduction
- ❖ What is Selenium?
- ❖ Selenium WebDriver Architecture
- ❖ What are the different components or tools of Selenium?
- ❖ What types of Applications that Selenium can and cannot Automate?
- ❖ What are the different browsers supported by Selenium?
- ❖ What is SeleniumHQ?
- ❖ What types of Testing can be automated using Selenium?

C# for Selenium

- ❖ Introduction to C#
- ❖ Introduction and Installation of Visual Studio
- ❖ Executing First C# Program
- ❖ Opps Concepts in C#

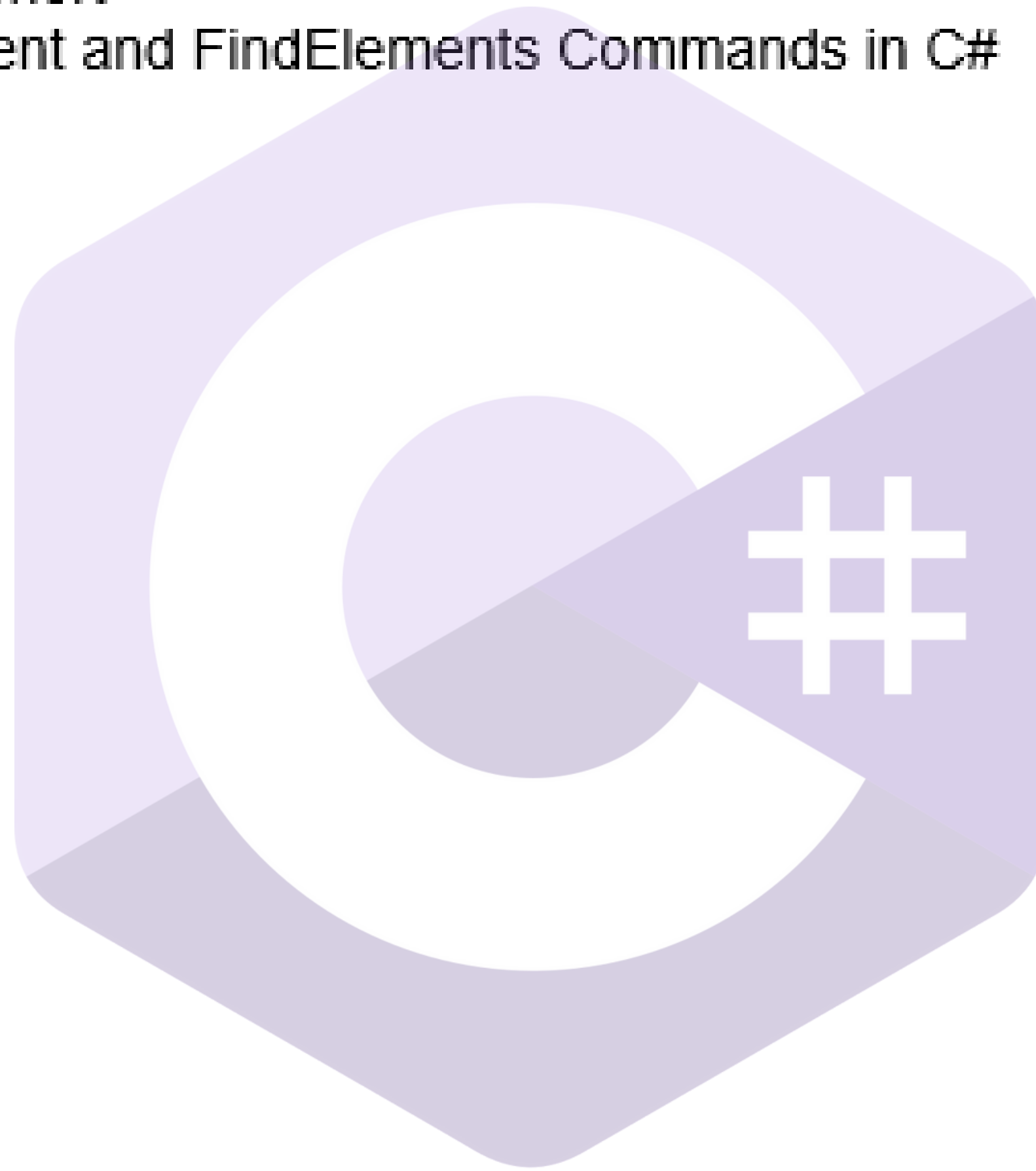
Selenium C#

- ❖ Installing Selenium in Visual Studio
- ❖ Adding Chrome Driver to execute Selenium C# scripts on Chrome Browser
- ❖ Adding Gecko Driver to execute Selenium C# scripts on Firefox Browser
- ❖ Launching Safari browser using Selenium
- ❖ WebDriverManager Configuration
- ❖ Browser Factory Program and the usage of IWebDriver interface
- ❖ Selenium C# – URL navigation using `Navigate().GoToURL()`
- ❖ Selenium C# – URL navigation `Navigate()`
- ❖ Selenium C# – Maximizing the Browser
- ❖ Selenium C# – Customizing the Browser Window Size
- ❖ Selenium C# – Retrieving the title of the page
- ❖ Selenium C# – Retrieving the Current URL of the page
- ❖ Selenium C# – Retrieving the Source Code of the page
- ❖ Selenium C# – Refreshing the page
- ❖ Selenium C# – Closing the Browser window



IWebDriver Commands

- ❖ IWebDriver Browser Commands in C#
- ❖ Browser Navigation Commands in C#
- ❖ WebElement Commands in C#
- ❖ XPath in Selenium: How to Find & Write? (Text, Contains, AND)
- ❖ Types of X-path
- ❖ How to Write Dynamic XPath in Selenium WebDriver
- ❖ Xpath in Short
- ❖ FindElement and FindElements Commands in C#



- ❖ CheckBox & Radio Button Operations in C#
- ❖ DropDown & Multiple Select Operations in C#
- ❖ Handle Dynamic WebTables with Selenium in CSharp
- ❖ Switches Alerts & Windows
- ❖ How to Handle Alert and Popup Box in Selenium CSharp
- ❖ How to Handle Multiple Browsers in Selenium CSharp
- ❖ Implicit Wait Commands in Selenium WebDriver C#
- ❖ Explicit Waits FluentWaits in Selenium C#
- ❖ Switch Command in Selenium C#

Advanced Selenium c#:

- ❖ Using Implicit Wait in Selenium C#
- ❖ Explicit and Fluent Wait in Selenium
- ❖ Handling Alert Windows
- ❖ Handling Multiple Browser Windows
- ❖ Handle Frames & iFrames With Examples

Frameworks in selenium C# (Any One):

- a) Selenium with BDD Specflow

Set Up Selenium for Specflow in Visual Studio with C#

- ❖ Download and Install Visual Studio
- ❖ Set Up Selenium WebDriver with Visual Studio in C#
- ❖ Set Up SpecFlow

SpecFlow Basic

- ❖ SpecFlow Feature File
- ❖ Step Definition File

Data Driven Testing

- ❖ Data Driven Testing in SpecFlow
- ❖ Data Driven Testing Using Examples Keyword in SpecFlow



Tables in SpecFlow

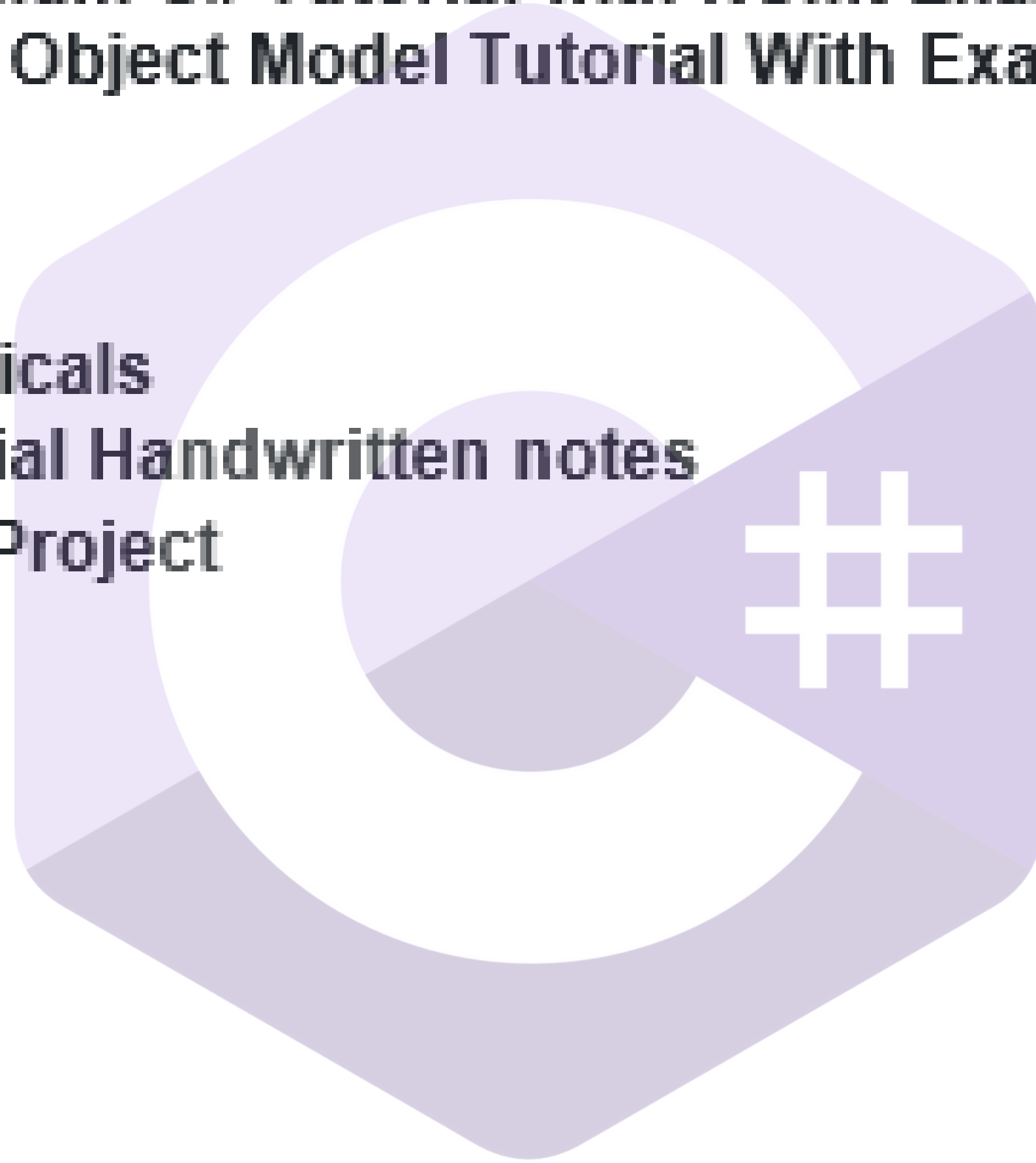
- ❖ Transform Table into Dictionary
- ❖ Transform Table into DataTable
- ❖ CreateInstance in SpecFlow Table
- ❖ CreateSet in SpecFlow Table

b) Selenium C# Tutorial with NUnit Example

c) Page Object Model Tutorial With Examples

Other:

- Practicals
- Special Handwritten notes
- Mini Project



Automation in selenium with Python

Selenium Basics

- Selenium Basics
- Components of Selenium
- Applications and Uses
- Features
- Limitations

Selenium Python Basics

- Selenium Python Introduction and Installation
- Navigating links using get method
- Interacting with Webpage
- Locating single elements
- Locating multiple elements
- Locator Strategies – Selenium Python
- Writing Tests using Selenium Python

Locating Strategies

- Locating Single Elements –
 - `find_element_by_id()`
 - `find_element_by_name()`
 - `find_element_by_xpath()`
 - `find_element_by_link_text()`
 - `find_element_by_partial_link_text()`
 - `find_element_by_tag_name()`
 - `find_element_by_class_name()`
 - `find_element_by_css_selector()`
- Locating Multiple Elements –
 - `find_elements_by_name()`
 - `find_elements_by_xpath()`
 - `find_elements_by_link_text()`
 - `find_element_by_partial_link_text()`
 - `find_elements_by_tag_name()`
 - `find_elements_by_class_name()`
 - `find_elements_by_css_selector()`

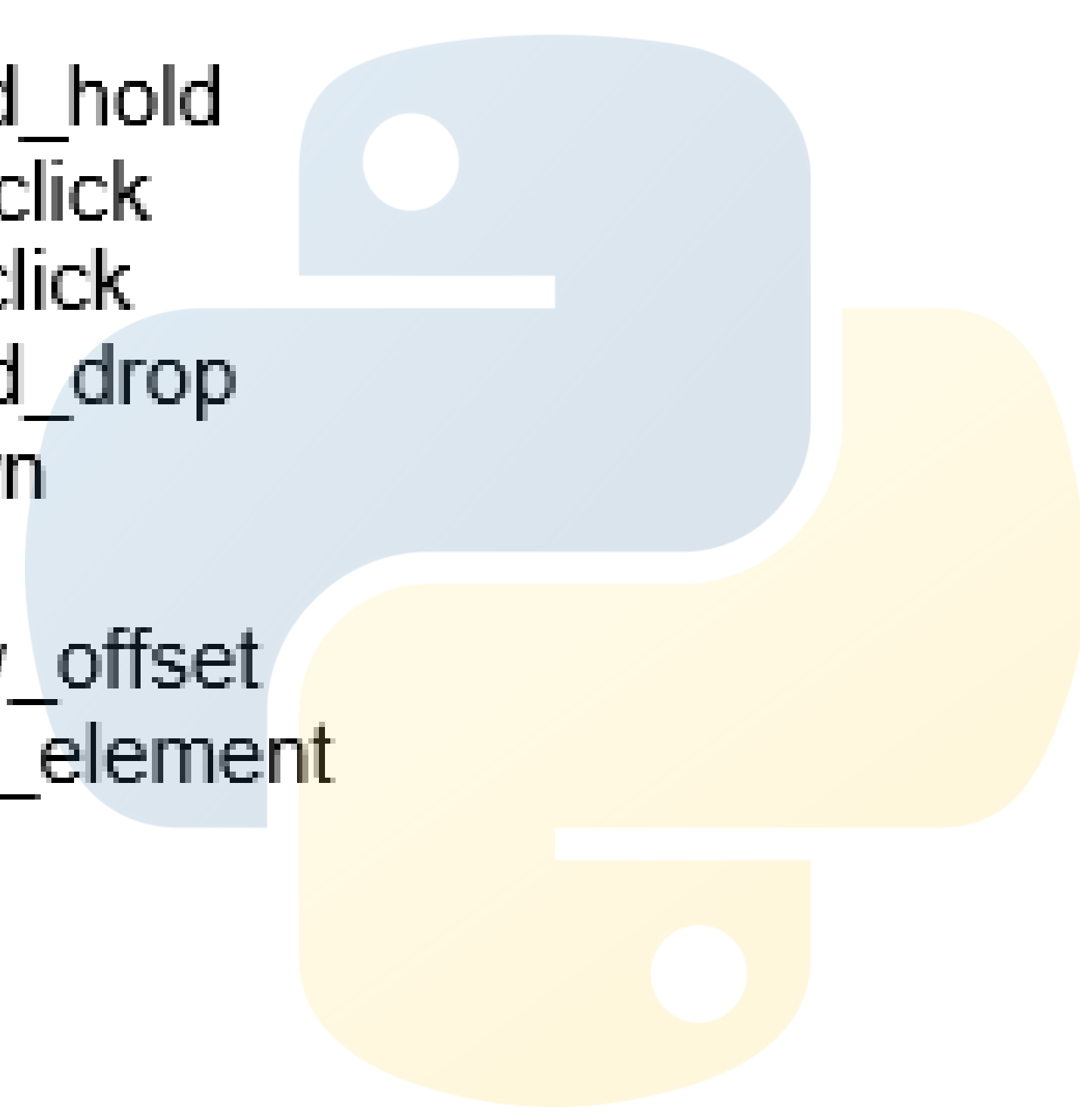


Waits

- Explicit waits
- Implicit Waits

Action Chains

- Action Chains Basics
- click
- click_and_hold
- context_click
- double_click
- drag_and_drop
- key_down
- key_up
- move_by_offset
- move_to_element



- `move_to_element_with_offset`
- `release`
- `reset_actions`
- `send_keys`

Advanced in Selenium Python –

- Handling Exceptions – Selenium Python
- Special Keys in Selenium Python
- How to handle alert prompts in Selenium Python ?
- Adding and Deleting Cookies in Selenium Python
- How to move back and forward in History using Selenium Python ?
- Special Keys in Selenium Python
- Assertion in Selenium WebDriver using TestNg
- Selenium Python Tricks
- Page Object Model (POM)

Projects and Other:

Mini Projects:

- Whatsapp using Python!
- Browser Automation Using Selenium
- Facebook Login using Python
- Automating Happy Birthday post on Facebook using Selenium
- How to access popup login window in selenium using Python
- SMS Bomber using Selenium

Other:

- **Practicals**
- **Special Hand written Notes**



Automation Testing with Selenium Webdriver(Java)

1. OVERVIEW

- Introduction
- Advantages of selenium
- Disadvantages of Selenium

2. Selenium IDE

- Creating Selenium IDE Tests
- Script Debugging
- Inserting Verification Points
- Pattern Matching
- Selenium User Extensions
- Different Browser Execution

3. ENVIRONMENT SETUP

- Download and Install Java
- Download and Configure Eclipse
- Configure FireBug and FirePath
- Configure Selenium RC
- Configure Selenium WebDriver

4. SELENIUM RC

- What is Selenium RC?
- Selenium RC Architecture
- RC – Scripting

5. SELENESE COMMANDS

- Actions
- Accessors
- Assertions



6. WEBDRIVER

- Architecture
- Selenium RC Vs WebDriver
- Scripting using WebDriver
- Most Used Commands

7. LOCATORS

- Locators Usage

8. INTERACTIONS

- User Interactions
- Text Box Interaction
- Radio Button Interaction
- Check Box Interaction
- Dropdown Interaction
- Synchronization
- Drag & Drop
- Keyboard Actions
- Mouse Actions
- Multi Select Action
- Find All Links

9. TEST DESIGN TECHNIQUES

- Page Object Model
- POM Flow Diagram
- Driven using Excel
- Parameterization
- Log4j Logging
- Exception Handling
- Multi Browser Testing
- Capture Screenshots
- Capturing Videos



10. TESTNG

- What is TestNG?
- Installing TestNG for Eclipse
- Annotations in TestNG
- TestNG-Eclipse Setup
- First Test in TestNG

11. SELENIUM GRID

- Architecture
- Working with Grid
- Configuring the Hub
- Configuring the Nodes
- Develop the Script and Prepare the XML File
- Test Execution
- Result Analysis

Other:

- **Practicals**
- **Special Handwritten notes**
- **Mini Project**

