

# Selenium WebDriver Training

Test Automation :  
Why, What & How?

# The Golden Circle

What

## What is test automation?

Anything that has been manually tested that are repetitive in nature and do not require different logic to perform

Why

## Why test automation?

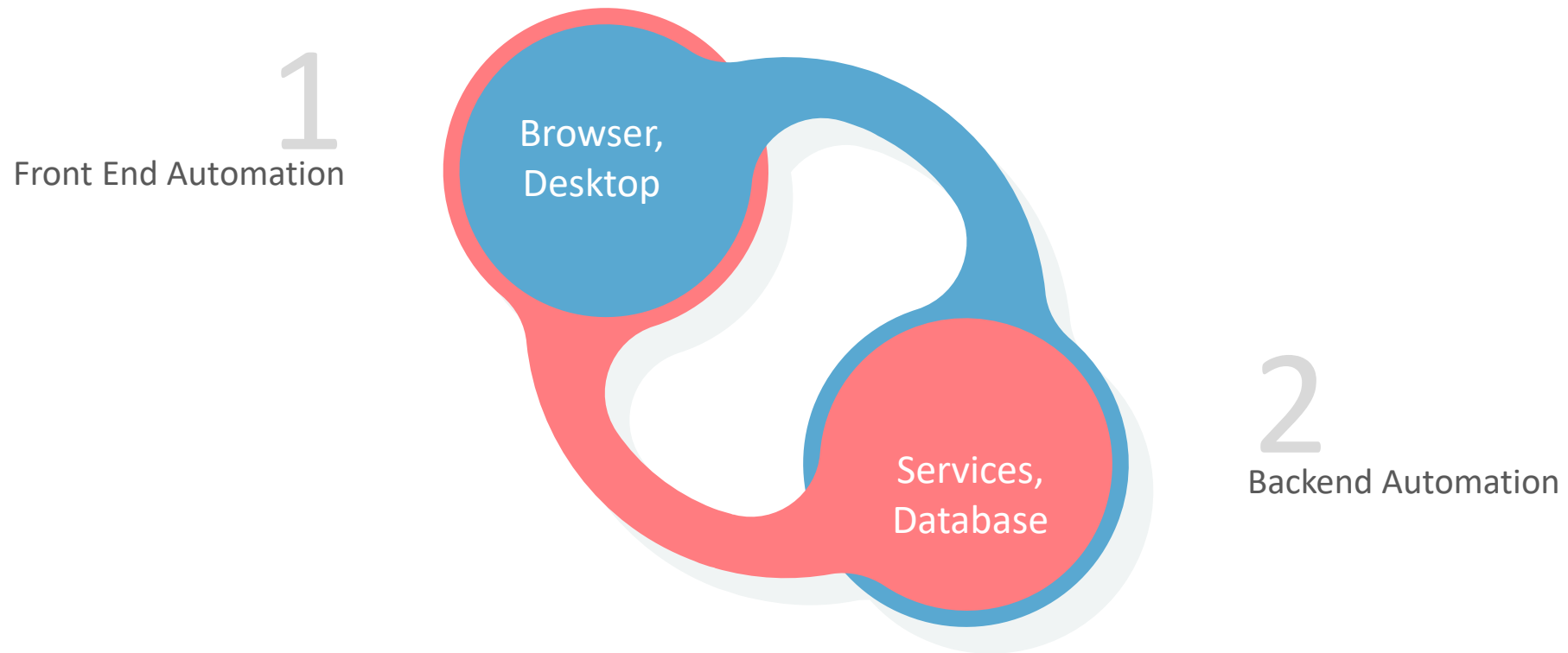
Save time, Save cost, improves quality

How

## How is test automation performed?

There are plenty tools available in the market

# Types of Automation



# Browser Automation



**Safari**

Apple



**Firefox**

Mozilla



**Chrome**

Google



**Edge** new

Microsoft



**Opera**

Opera Software

# Opensource Browser Automation – Popular Tools



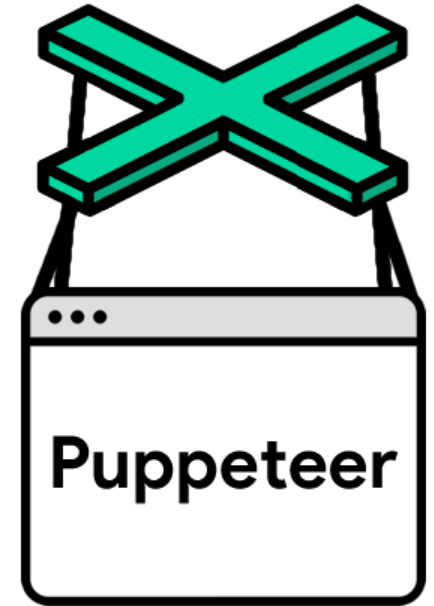
Selenium



Playwright



Cypress



# Tool – Usage across world



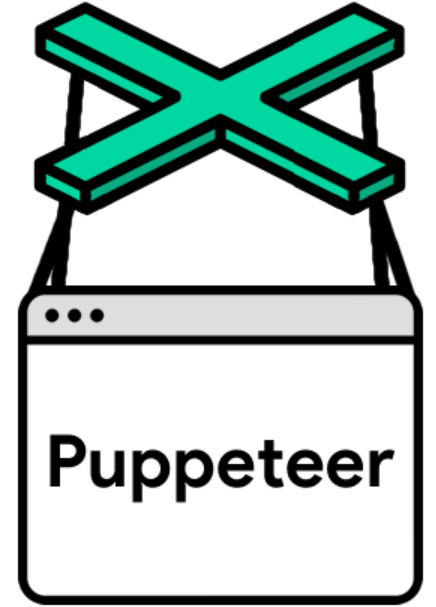
Selenium



Playwright



Cypress



Puppeteer

#1 – Max Downloads

Getting Popular

Decent Market Share

Developer Tool

# Tool – Scripting Languages



Selenium

Core Java,  
Python,  
C#,  
JavaScript,  
Ruby,  
Perl



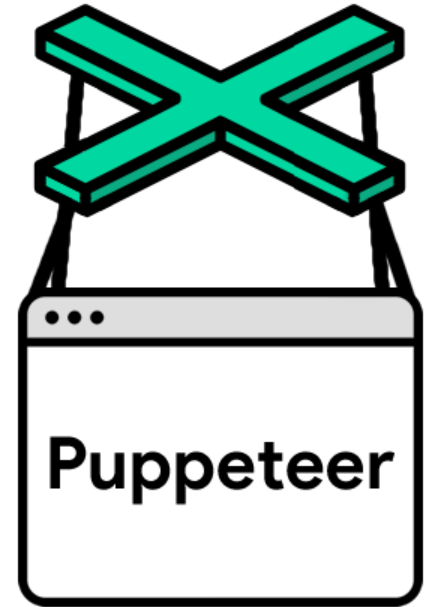
Playwright

Core Java,  
Python,  
C#,  
JavaScript



Cypress

JavaScript



Puppeteer

JavaScript

# 2023 – Language Forecast

INTRODUCTION

LANGUAGE

SKILLS

STATE OF THE INDUSTRY

Y FINDINGS

## LANGUAGE

### 2023 Language Forecast

What does 2023 hold for languages? Considering market uncertainty, we're keeping our forecast conservative and sticking to the lower end of the 95% confidence interval in our models.

Overall, our forecast predicts consistency through the first months of 2023.

The languages that grew in 2021 and 2022 will continue to grow. Mostly. We expect to see a seasonal dip in December before they resume climbing.

At this point we aren't anticipating any major place-trading among the top-ranking languages.

HackerRank

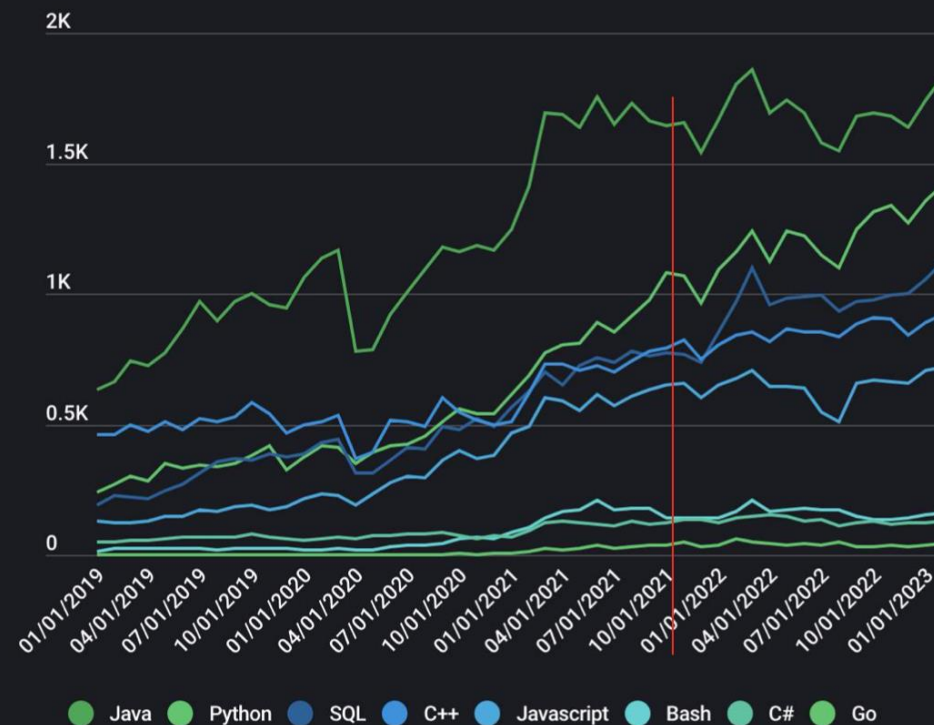


Figure 9: Actual and forecasted (9/2022 - 2/2023) monthly active tests - mandatory language.



# Java is Popular Because

More than 70% of the automation openings are in Java with Selenium

Opportunities

Easy to  
Integrate

Integration with API / Services or  
Containerization / Virtualization is easier

Selenium WebDriver is built  
primarily on Core Java

Motherhood

Plenty of  
Libraries

TestNG, Apache POI, Extent  
Reports

# Java Editors

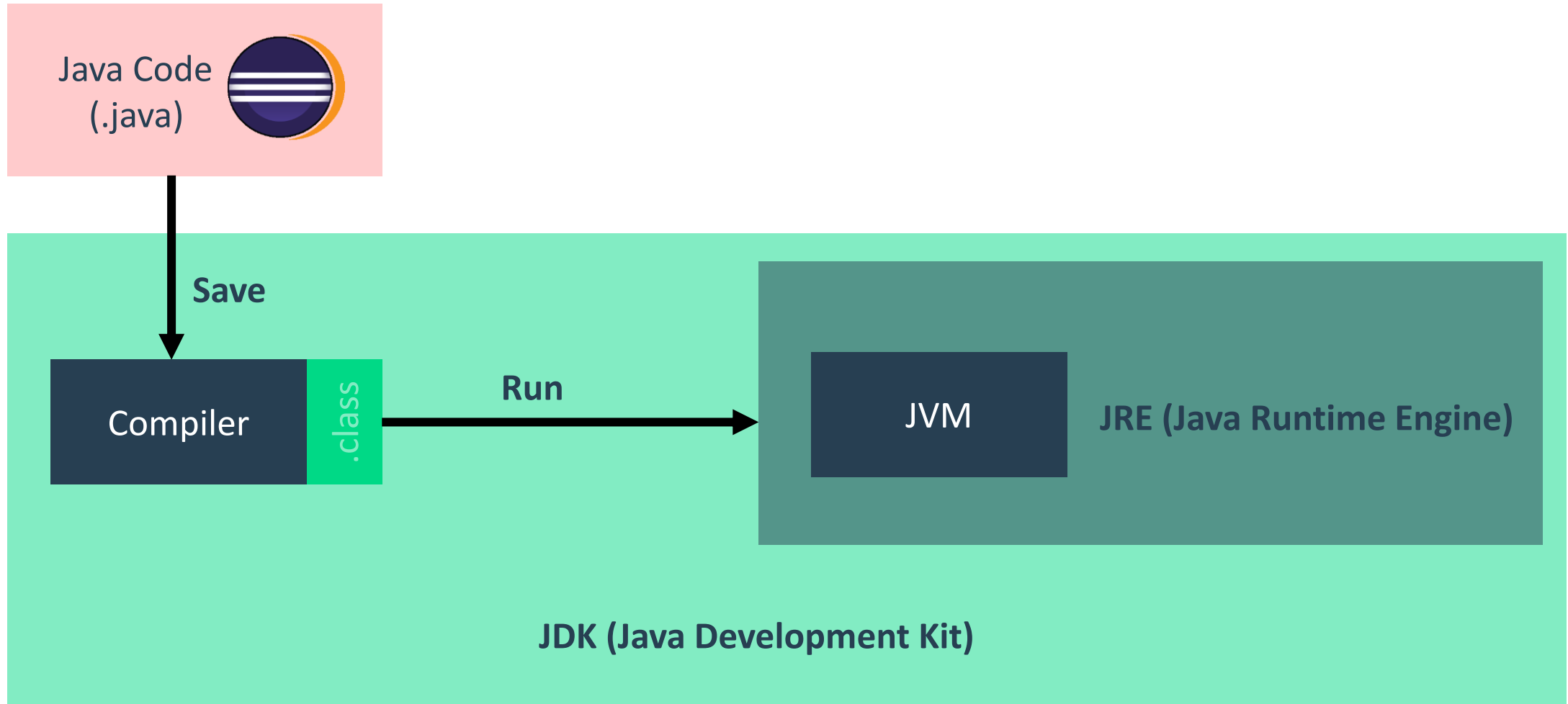


# Check !





Java is \_\_\_\_\_

- ☐ Object oriented Programming language
- ☐ Most popular language used by developers and automation engineers
- ☐ Base language for Selenium WebDriver
- ☒ All the above

# How Java Works?



# 4 Things to Know before you start coding

-  Project
-  Package
-  Class
-  Variable & Method

## A. Maven Project (starts with Upper case)

- Easy to manage the software dependencies and versions
- Easy to build as execution project library

## B. Package (starts with lower case)

- Like a folder in a drive (package in a project)
- Helps to organize, provide security

## C. Class Name (starts with Upper case)

- Equivalent to a testcase (on closest comparison)
- Perform set of actions (using methods)
- It stores value (using variables)





## D. Variable / Method Name (starts with lower case)

- Both are members of the class
- Variable – Store data
- Method – Perform action

# Note the naming conventions

- Project (**Upper** case)
- Package (**lower** case)
- Class (**Upper** case)
- Variable & Method (**lower** case)

# Other 2 things before you start coding

-  main method
-  console output (print)

# #1 Java main method ..

- Main method is the entry point for executing Java Program
- Without main method, the Java code will not execute by itself

```
public static void main(String args[]){
```

```
// write your code here
```

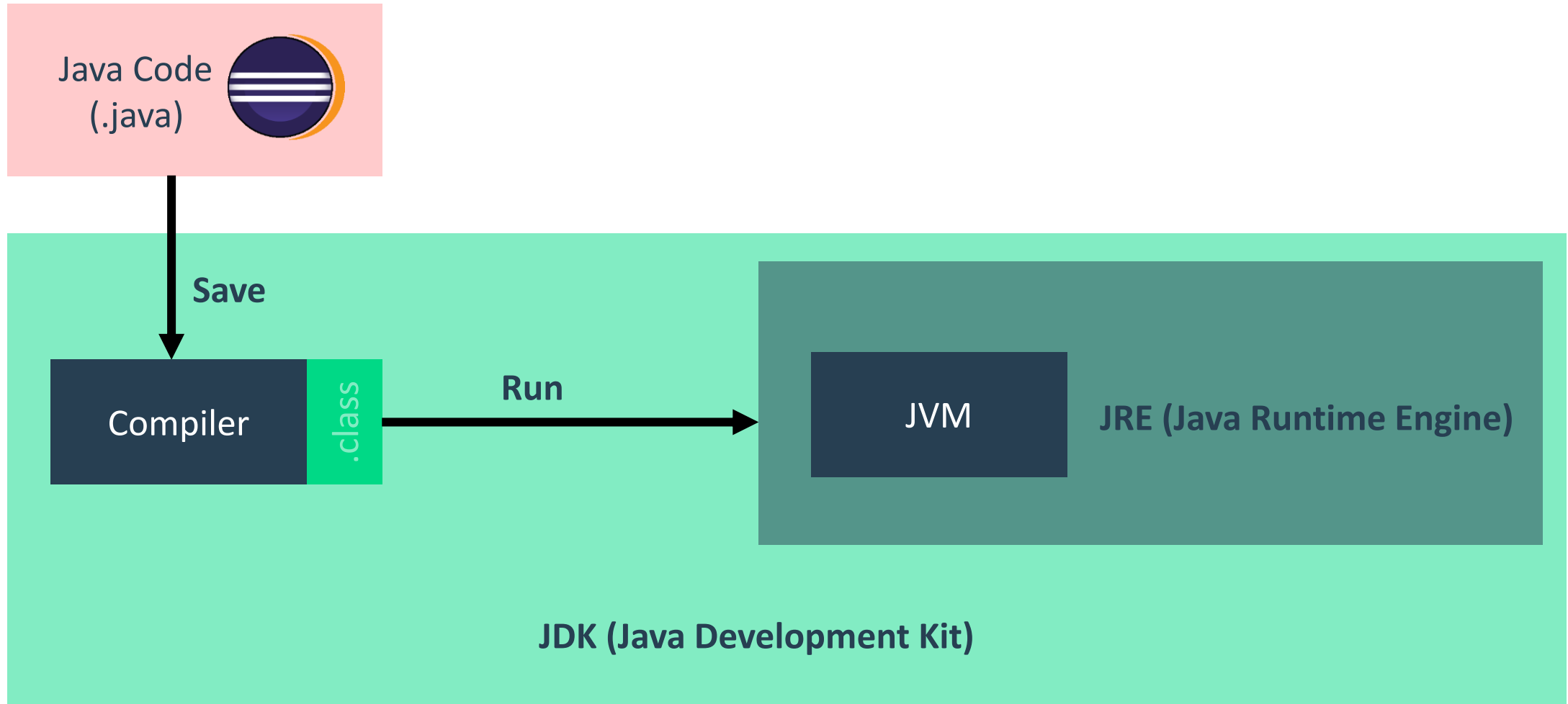
```
}
```

## #2 sysout statement

- Print the expected value in the console using sysout (shortcut) : ctrl + space

```
public static void main(String args[]){  
  
    System.out.println("Here is my first code");  
  
}
```

# Let us write a sample code ..



# Summary

- What, **Why** and How : UI Test Automation
- Core Java Internals : JDK, JRE and JVM
- Project, Package, Class, Method : Naming Convention

# Classroom Exercise (Breakout)

- Create a maven project using dependencies given (if not done before)
- Create a new package by name : **week1.day1** (lower case)
- Create a new class by name : **HelloSelenium** (starts with Upper case)
- Check main method and write a sysout statement
- Save and run the code to confirm the value is printed
- Go to target folder and confirm the class file is created