SDET Roadmap - Day 2: Programming Basics (Language Intro)

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Objective: Start with a programming language (Java or Python) since SDETs code tests.

Why It Matters:

SDETs need to be proficient in a programming language to write automation scripts, test frameworks, and integrate with CI/CD pipelines. A strong base in Python or Java is essential for writing maintainable, scalable test cases.

Language Options:

- Python (recommended for beginners): Simple syntax, widely used in automation and scripting.
- Java: Popular in enterprise applications and Selenium-based automation frameworks.

Tasks & Exercises:

1. Set up your development environment:
   - Python: Install Python from python.org and use VS Code or PyCharm CE.
   - Java: Install JDK (Java SE) and IntelliJ IDEA Community or Eclipse.

2. Write your first program:
   - Print "Hello World" to console.
   - Example in Python:

```
print("Hello, World!")
```

   - Example in Java:

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

```
        System.out.println("Hello, World!");
    }
}
```

3. Learn variable types and basic I/O:

- Python: Strings, integers, floats, input() function.
- Java: String, int, double, Scanner class.

4. Practice using loops and conditionals:

- For loop, while loop, if-else statements.
- Write a program to print numbers from 1 to 10.
- Write a program to check if a number is even or odd.

Hands-On Resource Links:

- Codecademy (Python or Java Basics): https://www.codecademy.com/learn
- HackerRank 30 Days of Code Challenge (Java): https://www.hackerrank.com/domains/tutorials/10-days-of-javascript
- Python 3 Official Docs: https://docs.python.org/3/tutorial/index.html

Tips:

- Write and run code daily.
- Save your work in a GitHub repository.
- Comment your code to document what each block does.

Outcome:

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By the end of Day 2, you will:

- Understand how to write and run a basic program.

- Be comfortable with variables and control flow.

- Begin your journey in programming for automation.

Tracker Sheet Entry:

Topic/Task	Estimated Time (min)
Set up IDE & language runtime	30
Write "Hello World" program	15
Practice variables & input	20
Use loops and conditionals	25