🚀 Full Customized Progress Map

Student Profile - 🧠Background: Completed IBM AI Developer Course (Python, JS, HTML) - 🎉Comfortable in: VS Code, Coursera environments - 😖 Goal: Career pivot into high-paying software/AI/dev roles - 👆 Experience Level: Early-stage developer

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🗿 Weekly Roadmap Overview

Week 1 – Programming Foundations

Concepts: Variables, Conditionals, Loops, Functions, Scope
Languages: - Day 1: Python - Day 2: TypeScript - Day 3: SQL (Postgres) - Day 4: Go - Day 5: Kotlin - Day 6: Julia - Day 7: Rust

Week 2 – Data Structures

Lists, Dictionaries, Maps, Tuples, Sets (per language idioms)

Week 3 – File I/O, Web Servers & Scraping

Handling files, creating the simplest server, scraping data, parsing XML/JSON

Week 4 – Errors & Testing

Error handling, logging, debugging tools, testing frameworks

Week 5 – OOP & Functional Programming

How each language does classes/objects and functional logic

Week 6 – Concurrency & Optimization

Performance, async, multithreading, goroutines, actors, etc.

Week 7 – Industry-Standard Stacks

Build a mini project or component using: - Popular web servers - Scraping libraries - Testing frameworks - Production concurrency

Week 8+ (Bonus) – Interview Prep

Crack the coding interview, DS&A across all 7 languages

Language Choices (Finalized)

Language	Version (Latest Stable)	Role/Fit
Python	3.12	AI, Scripting, Backend
TypeScript	5.4	Frontend, Web apps
SQL (Postgres)	16	Data handling
Go	1.22	DevOps, Microservices
Kotlin	1.9	App dev, Functional programming
Julia	1.10	AI, Scientific computing
Rust	1.75	Performance & Systems

🧭 Progress Tracker

Week	Day	Language	Concept	Status
1	1	Python	Variables, Loops, Conditionals	👌 Not Started
1	2	TypeScript	Same	👌 Not Started
1	3	SQL	CASE, Filtering	👌 Not Started
1	4	Go	if/switch, loops	👌 Not Started
1	5	Kotlin	when/if, for/while	👌 Not Started
1	6	Julia	branching/looping	👌 Not Started
1	7	Rust	match, loops	👌 Not Started

🛳️ Next Learning Objectives

• Start with **Python**: variables, logic, basic control flow
• Compare how logic differs in **TypeScript, SQL, Go, Kotlin, Julia, Rust**
• Start seeing how different paradigms handle similar problems

Personalization Notes

• ☝🏽 Focus more AI/ML-aligned examples in Python & Julia
• 😓 Web-centric or visual-friendly examples in TypeScript and Kotlin

- ⬛ Career-focused Go Further prompts (e.g., deploy a real REST API in Go)
- 😌 Highlight transferable skills across all languages
- 🐱 Lean into job-ready concepts and project-like exercises

👈 All set to begin **Week 1, Day 1 – Python: Variables, Conditionals & Loops**. When you're ready, say:

"Let's start Day 1!"