



Introduction to Programming

Muhammad Salman Bediya

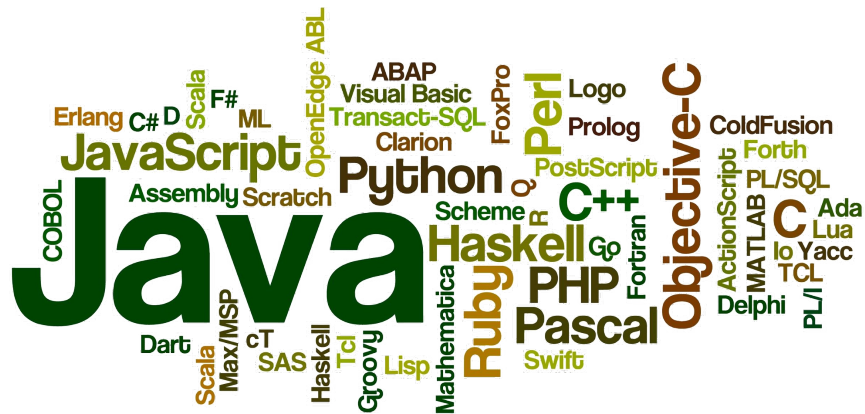
Muhammad Salman - Software Engineer

- Full Stack Developer - Flutter/Dart | Python
- Lead Flutter Instructor at Bano Qabil (Al-Khidmat)
- Former Flutter Mentor at Google Developers Club
- Currently Pursuing the Data Science.
- Youtube (Salman Bediya)
- Medium (salmanbediya.medium.com)



What is Programming?

- Giving instructions to a computer to perform a specific task
- Set of step-by-step commands, known as code or a program



How to get started with programming?

- Choose a Programming Language
- Set Up Your Development Environment (Editor, Compiler/Interpreter, etc.)
- Start Coding



Introduction to Dart

What is Dart?

- **Dart** is a programming language developed by **Google** and announced in 2011
- It is designed for building web, mobile, and server applications



Key Features

- **Object-Oriented:**
 - Dart is an object-oriented programming (OOP) language, meaning it uses objects to model and organize code.
- **Strong Typing:**
 - Dart is statically typed, which means that variable types are known at compile-time. This can help catch certain types of errors early in the development process.
- **Just-in-Time (JIT) and Ahead-of-Time (AOT) Compilation:**
 - Dart supports both JIT and AOT compilation. During development, the code can be compiled and executed on the fly (JIT), while for deployment, it can be compiled ahead of time for better performance (AOT).



JIT vs AOT

SLOW STARTUP TIME (LONG WARM UP)



PEAK PERFORMANCE



COMPILES CODE AT RUNTIME



SUITE OF DEBUGGING TOOLS



HOT RELOAD



DESIGNED FOR DEVELOPMENT PHASE



dart run [filePath]



COMPILE/RUN TIME: 1s 124ms/ 670ms



FAST (INSTANT) STARTUP TIMES



CONSISTENT PERFORMANCE



COMPILES CODE BEFORE RUNTIME



NO DEBUGGING TOOLS



TESTING REAL-WORLD PERFORMANCE



DESIGNED FOR PRODUCTION PHASE



dart compile exe [filePath]



COMPILE/RUN TIME: 3s 125ms / 27ms

How to start working in Dart?

- Dartpad/VS Code/Android Studio
- Dart SDK
- **Your Interest**





Self-interest makes some
people blind, and others
sharp-sighted.

Francois de La Rochefoucauld



It's hands-on time

Thanks

Do you have any questions?

contact@salmanbediya.com

+92 323 2374975

<http://salmanbediya..com>

