The Best & Most Complete Dart Course - Visualize, Learn and Practice all Dart Language Concepts! (youtube.com)

Type safe language-- operations not allowed to be performed on data if not allowed by type of the data

- Uses static type checking (failing leads to compilation failure), and runtime checks (failing leads to runtime exception)
- Code cannot run into undefined states
- Dynamic type bypasses static analyzer

Type Inference--

- Can use var keyword instead of specific type keyword, and static analyzer will infer variable type. Can only be set to one type of data
- Dynamic (is a type, not keyword) has Dart decide type of the data at runtime, and then automatically converts variable to the correct type even if there are instances of it being different types
- If dynamic cannot infer the type of variable with context given sets it to null

Null Safety--

- Once variable determined to be non-nullable, it is always non-nullable

Dart Compilers--

- Development phase: recommended to use JIT (just in time) compiler (only compiles the code needed, and only recompiles code that has been changed.)
    - Transforms code into intermediary language not machine code
- Production phase: recommended to use AOT (ahead of time)
    - Doesn't need JIT functions, prioritize program running fast
    - Compiles entire code into machine code
    - Makes sure code is most optimized, but does recompile code that hasn't been changed
- Web apps compile into Javascript

Dart SDK (software development kit)

- Dart sdk alone only allows creation of command line applications, server applications, + non-flutter web applications
- Dart code extension integrates entire dart dsk into vscode

First Dart Project

- Creating a dart project requires picking a template (four options)