NULL Safety-

- Never type- prevents expression from finishing evaluation, causes exception to be thrown (at the bottom of type tree)
- Objects of any time are of type object?
- Invalid returns (when function of non void doesn't have return value)
    - In null safety, results in compiler error (non null safety would return null)
    - Checks that every possible path in a function returns a valid value (flow analysis)
- Uninitialized variables (before null safety uninitialized variables would be set to null)
    - Top level variables and static fields must be initialized with a value of the correct type
    - Non-nullable local variables don't need to be initialized
- Control flow analysis
    - Can cast variable as non-nullable through: var!
    - Late variables- don't need to be initialized right away, initialized at first time of use
- This tutorial will always have null safety turned on

Dart Variables-

- Keywords- Don't use as identifiers
- 4 types- (based on where you declare them
    - Top-level – not linked to any class or object, can be accessed anywhere in programs
    - Static, instance – tied to objects and variables
    - Local- can only be accessed in scope of particular function etc.
- How to declare a variable:

Table on variable declaration and nullability optionality provided

Nullable initialization				
NO LATE	*Top Level*	*Static*	*Instance*	*Local*
At declaration	**Optional**	**Optional**	**Optional**	**Optional**
Before constructor body	---	---	**Optional**	---
After declaration, but before use	**Optional**	**Optional**	**Optional**	**Optional**
LATE				
At declaration	**Optional**	**Optional**	**Optional**	**Optional**
Before constructor body	---	---	**Optional**	---
After declaration, but before use	**Optional**	**Optional**	**Optional**	**Optional**
Non-nullable initialization				
NO LATE	*Top Level*	*Static*	*Instance*	*Local*
At declaration	**Required**	**Required**	**Optional**	**Optional**
Before constructor body	---	---	**Required**	---
After declaration, but before use	**ERROR**	**ERROR**	**ERROR**	**Optional**
LATE				
At declaration	**Optional**	**Optional**	**Optional**	**Optional**
Before constructor body	---	---	**Optional**	---
After declaration, but before use	**Required**	**Required**	**Required**	**Required**