Null Safety

Null safety in Dart is a feature that helps developers avoid null reference errors, which are common bugs in many programming languages. Null reference errors occur when a program attempts to use an object reference that has not been initialized (i.e., it is null). Dart's null safety feature ensures that:

Non-nullable types: By default, all types in Dart are non-nullable, meaning they cannot contain a null value. For instance, if you declare a variable as `int`, it must always contain an integer value and can never be null.

Nullable types: If a variable should be able to hold a null value, you can explicitly mark it as nullable by adding a question mark (`?`) to its type. For example, `int?` means that the variable can hold either an integer or null.

```
void main() {
  int a = 5;          // Non-nullable integer
  int? b;             // Nullable integer
  b = null;           // Valid because b is nullable

  a = null;           // error because a is non-nullable
  print(a);
  print(b);
}
```

By enforcing these rules, Dart's null safety feature helps reduce runtime errors and improves code reliability and readability.