

1. What is the purpose of the `?` operator in Dart null safety?

The `?` operator in Dart is used to declare a **nullable** type , meaning the variable **can hold a `null` value**.

Example:

```
int? age; // This means age can be an int or null
```

2. Create a **late** variable named **address**, assign a US value to it and print it.

late means the variable will be initialized **later**, but **must be assigned before it's used**.

Example:

```
void main()
{
  late String address;
  address = "US";
  print(address);
}
```

3. How do you declare a nullable type in Dart null safety?

You add a `?` after the type.

Example:

```
String? name; // name can be null
int? age;    // age can be null
```

4. Write a program in a dart to create an age variable and assign a null value using `?`

```
void main() {
  int? age = null;
  print("Age: $age"); }
```

5. Write a function that accepts a nullable int and returns 0 if it's null using ??

```
int checkNull(int? number)
{
    return number ?? 0;
}

void main()

{
    print(checkNull(null)); // Output: 0
    print(checkNull(5));   // Output: 5
}
```

6. Write `generateRandom()` function that returns 100 or null, and assign result to a non-nullable variable `status` with default value 0:

```
import 'dart:math';

int? generateRandom()
{
    Random random = Random();
    return random.nextBool() ? 100 : null;
}

void main() {
    int status = generateRandom() ?? 0;
    print("Status: $status");
}
```