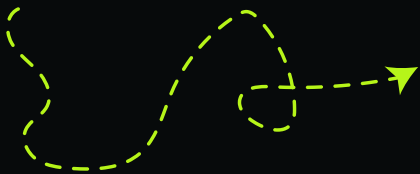


TIPS to **WRITE**

CLEAN CODE

in **FLUTTER**



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SWIPE

USE MEANINGFUL AND DESCRIPTIVE NAMES

Use meaningful and descriptive names for your variables, functions, and classes.
Avoid abbreviations and single-letter variable names.

// Bad example

```
String s; // What does s stand for?
```

// Good example

```
String username; // Descriptive and meaningful name
```

WRITE SHORT AND CONCISE FUNCTIONS

Write short and concise functions that do one thing and do it well. Aim for a maximum of 20 lines of code per function.

```
// Bad example  
void validateAndSaveForm() {  
    // A long function that does too many things  
    // spanning multiple pages or screens  
}
```

```
// Good example  
void saveForm() {  
    // A short and focused function that does one thing  
    // such as saving a form data to a database or API  
}
```

AVOID REDUNDANT CODE

Avoid redundant code by using inheritance, composition, and other object-oriented design patterns.



```
// Bad example
```

```
void fetchUserData() async {
```

```
    // Fetch user data from the server
```

```
    // ...
```

```
    // Fetch user data again to update the UI
```

```
    // ...
```

```
}
```

```
// Good example
```

```
void fetchUserData() async {
```

```
    // Fetch user data from the server
```

```
    // ...
```

```
}
```

```
void updateUI() {
```

```
    // Update the UI with the latest user data
```

```
    // ...
```

```
}
```

COMMENT SPARINGLY AND EFFECTIVELY

Comment your code sparingly and only when necessary. Your code should be self-explanatory, and comments should add value by providing context or explaining complex logic.



```
// Bad example
// This is a function that saves a user's profile
// data to the server using an HTTP POST request
void saveUserData() {
    // Code that saves the user's data
    // ...
}
```

```
// Good example
void saveUserData() {
    // Saves the user's profile data to the server
    // using an HTTP POST request
    // ...
}
```

FORMAT YOUR CODE CONSISTENTLY

Format your code consistently and use whitespace to make it more readable. Use a linter like Dartfmt to enforce consistent formatting across your project.




```
// Bad example
void fetchUserData() async {
  var response = await
  http.get(Uri.parse('https://example.com/userdata'));
  if(response.statusCode == 200) {
    print('Success');
  } else {
    print('Failed');
  }
}
```

```
// Good example
void fetchUserData() async {
  var response = await
  http.get(Uri.parse('https://example.com/userdata'));

  if (response.statusCode == 200) {
    print('Success');
  } else {
    print('Failed');
  }
}
```

HANDLE ERRORS GRACEFULLY

Handle errors gracefully and provide meaningful error messages. Use try-catch blocks to catch and handle exceptions.



```
// Bad example
void fetchData() async {
  try {
    // Code that fetches data from the server
    // ...
  } catch (e) {
    // Do nothing
  }
}
```

```
// Good example
void fetchData() async {
  try {
    // Code that fetches data from the server
    // ...
  } catch (e) {
    // Handle the error gracefully
    print('Error fetching data: $e');
  }
}
```

USE CONSTANTS AND ENUMS

Use constants and enums instead of hardcoding values in your code. This makes your code more flexible and easier to maintain.



```
// Bad example
void setColor(String color) {
    if (color == 'red') {
        // Do something
    } else if (color == 'blue') {
        // Do something else
    }
}
```

```
// Good example
enum Color { red, blue }

void setColor(Color color) {
    if (color == Color.red) {
        // Do something
    } else if (color == Color.blue) {
        // Do something else
    }
}
```

KEEP YOUR CODE MODULAR AND ORGANIZED

Keep your code modular and organized. Use packages and libraries to separate your code into logical components.



```
// Bad example
```

```
void validateEmail(String email) {
```

```
    // Code that validates the email
```

```
    // ...
```

```
}
```

```
void validatePassword(String password) {
```

```
    // Code that validates the password
```

```
    // ...
```

```
}
```

```
void validateForm(String email, String password) {
```

```
    validateEmail(email);
```

```
    validatePassword(password);
```

```
}
```



/ Good example

```
class EmailValidator {  
    static void validate(String email) {  
        // Code that validates the email  
        // ...  
    }  
}
```

```
class PasswordValidator {  
    static void validate(String password) {  
        // Code that validates the password  
        // ...  
    }  
}
```

```
class FormValidator {  
    static void validate(String email, String password) {  
        EmailValidator.validate(email);  
        PasswordValidator.validate(password);  
    }  
}
```


WRITE UNIT TESTS

Write unit tests for your code to ensure that it works as expected. Use a testing framework like Flutter Test to automate your tests.



```
// Bad example
void calculateTotalPrice(int price, int quantity) {
    // Code that calculates the total price
    // ...
}
```

```
// Good example
int calculateTotalPrice(int price, int quantity) {
    return price * quantity;
}
```

```
void main() {
    test('calculateTotalPrice', () {
        expect(calculateTotalPrice(10, 2), equals(20));
        expect(calculateTotalPrice(5, 3), equals(15));
    });
}
```

CONTINUOUSLY REFACTOR YOUR CODE

Continuously refactor your code to keep it clean and maintainable. Refactoring involves improving the design of existing code without changing its behavior.



```
// Bad example
```

```
void submitOrder() async {
```

```
  // Code that submits the order to the server
```

```
  // ...
```

```
}
```

```
// Later, the requirements change to include sending a  
confirmation email
```

```
void submitOrder() async {
```

```
  // Code that submits the order to the server
```

```
  // ...
```

```
  sendConfirmationEmail();
```

```
}
```

```
// Good example
Future<void> submitOrder() async {
  // Code that submits the order to the server
  // ...
}

Future<void> sendConfirmationEmail() async {
  // Code that sends the confirmation email
  // ...
}

void main() {
  test('submitOrder', () async {
    // Test the original functionality
    // ...

    // Test the new functionality
    await submitOrder();
    await sendConfirmationEmail();
  });
}
```



These tips should help you write clean and maintainable code in Flutter. Good luck, and happy coding!



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SWIPE



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