Dart Programming Language 2

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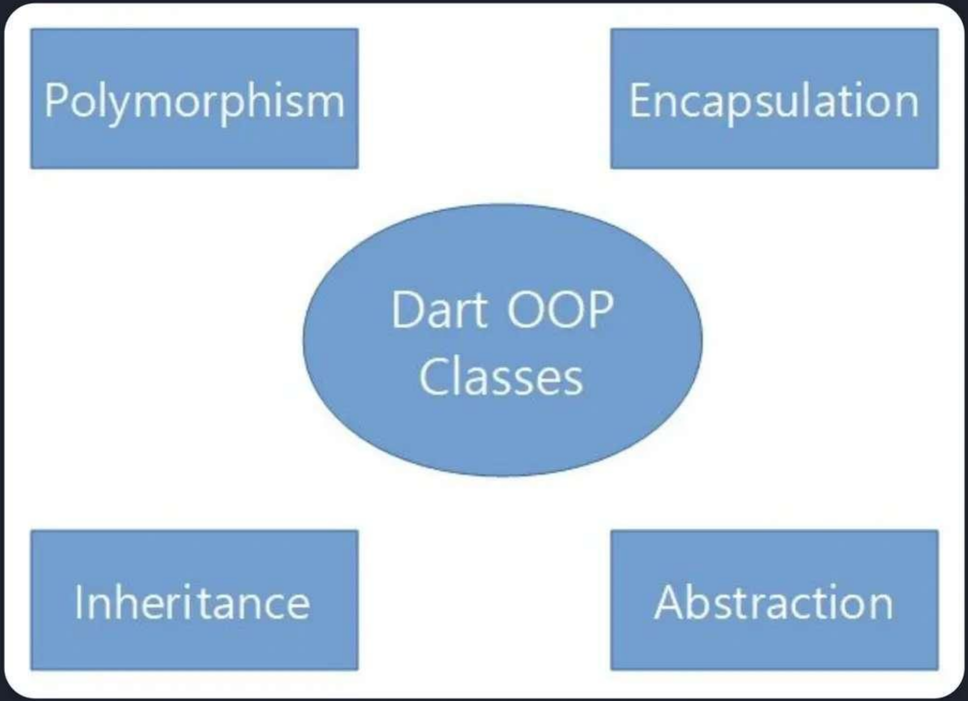
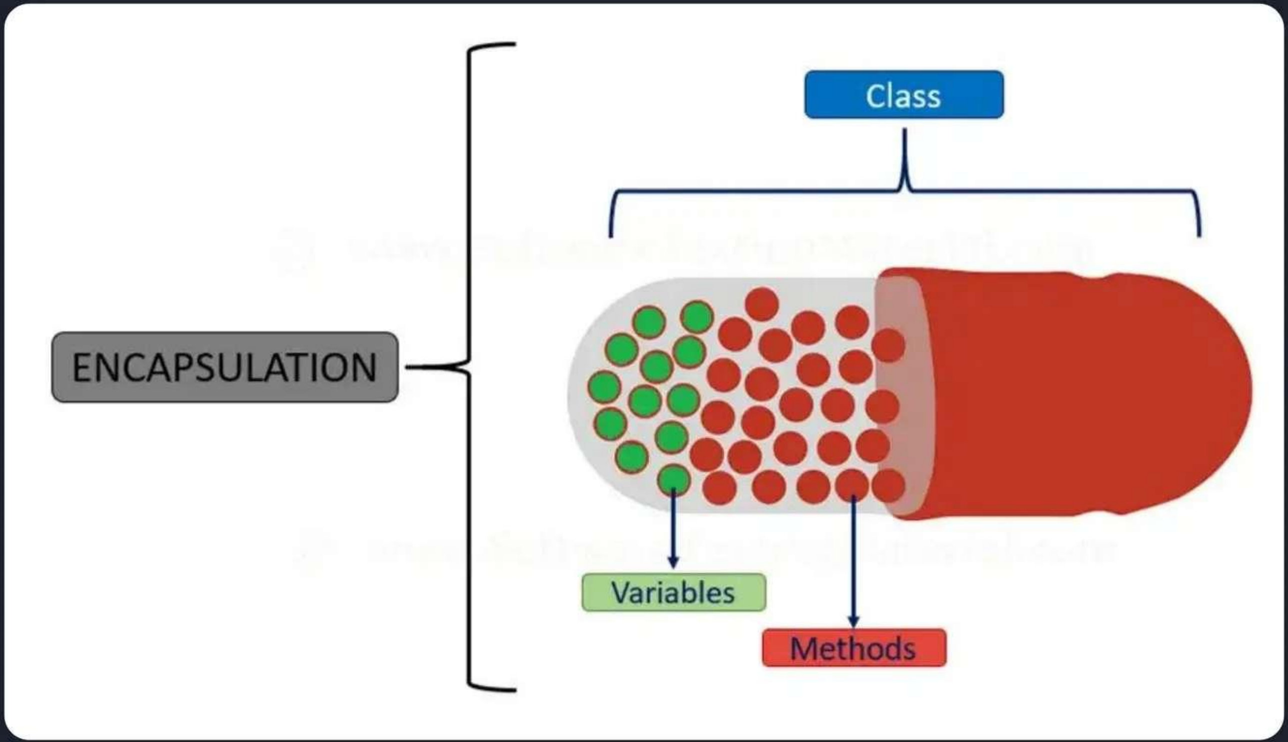
VII. Object-Oriented Programming 🔥

Dart is an object-oriented programming language, and it supports all the concepts of object-oriented programming such as classes, object, inheritance, mixin, and abstract classes. As the name suggests, it focuses on the object and objects are the real-life entities. The Object-oriented programming approach is used to implement the concept like polymorphism, data-hiding, etc. The main goal of oops is to reduce programming complexity and do several tasks simultaneously



Encapsulation

Encapsulation is one of the important concepts of object-oriented programming. Before learning about dart encapsulation, you should have a basic understanding of the class and object in dart. Encapsulation means hiding data within a library, preventing it from outside factors. It helps you control your program and prevent it from becoming too complicated

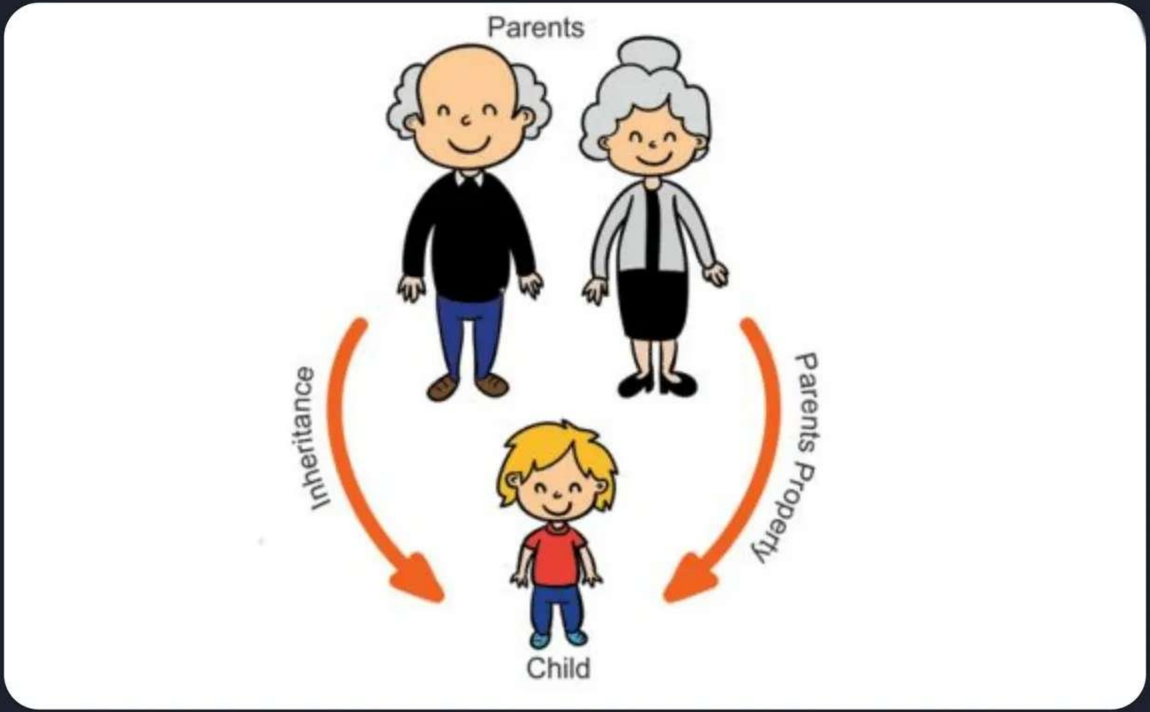


Encapsulation

```
class Student {
 String _name;
 int _age;
 String _address;
 String _phone;

 Student(this._name, this._age, this._address, this._phone);

 // Getters
 String get name => _name;
 int get age => _age;
 String get address => _address;
 String get phone => _phone;

 // Setters
 set name(String name) => this._name = name;
 set age(int age) => _age = age;
 set address(String address) => _address = address;
 set phone(String phone) => _phone = phone;

 @override
 String toString() {
   return 'Student: $_name, $_age, $_address, $_phone';
 }
}
void main() {
 Student student = Student('John', 20, '123 Main St', '555-555-5555');
 print(student.toString());
}
```

Inheritance

Inheritance is a fundamental concept in object-oriented programming (OOP) that allows a new class, called the subclass or derived class, to be based on an existing class, called the base class or superclass. The subclass inherits properties and methods from the base class, and can also add new properties and methods or modify the behavior of the inherited ones



Inheritance

```
class Animal {
 void eat() {
   print('The animal is eating');
 }
}

class Dog extends Animal {
 void bark() {
   print('The dog is barking');
 }
}

void main() {
 Dog myDog = Dog();

 myDog.eat();
 myDog.bark();
}
```

THANK YOU