

PROGRAMAÇÃO ORIENTADA A OBJETOS

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SENAI

Webinar 1 e 2

Agenda

- Conceito de Orientação a Objetos em JavaScript
 - Classes, Objetos
 - Herança e Encapsulamento
 - Código de Exemplo

Classes e Objetos

Contrato

-numero : Integer
-descr : String
-titulo : String

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Classes são estruturas de dados que representam abstrações de Objetos do mundo real.

Estas abstrações são representadas na forma de atributos, necessários ao armazenamento das informações que serão utilizadas nas aplicações.

Classes

```
class Produto {  
    constructor(codigo, descricao, valor, fornecedor) {  
        this.codigo = codigo;  
        this.descricao = descricao;  
        this.valor = valor;  
        this.fornecedor = fornecedor;  
    }  
  
    get Codigo() { return this.codigo; }  
    set Codigo(codigo) { this.codigo = codigo; }  
  
    get Descricao() { return this.descricao; }  
    set Descricao(descricao) { this.descricao = descricao; }  
  
    get Valor() { return this.valor; }  
    set Valor(valor) { this.valor = valor; }  
  
    get Fornecedor() { return this.fornecedor; }  
    set Fornecedor(fornecedor) { this.fornecedor = fornecedor; }  
  
    toString() {  
        return `Código: ${this.codigo} Descr.: ${this.descricao} Valor: ${this.valor.format()}`  
    }  
}
```

Uma classe é declarada contendo um nome, seus atributos e métodos são públicos.

Os métodos são declarados no corpo da classe , permitindo o acesso aos seus atributos.

Herança

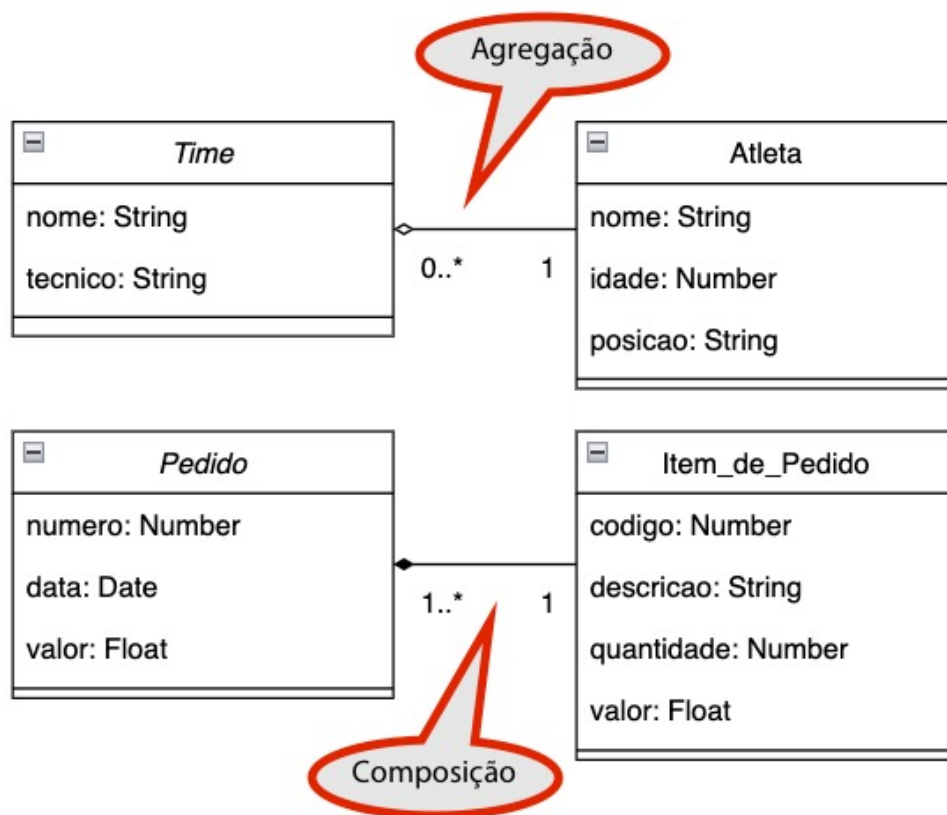
```
class Alimenticio extends Produto {  
    constructor(codigo, descricao, valor, validade, produzido) {  
        super(codigo, descricao, valor);  
        this.validade = validade;  
        this.produzido = produzido;  
    }  
  
    get Validade() { return this.validade; }  
    set Validade(validade) { this.validade = validade; }  
  
    get Produzido() { return this.produzido; }  
    set Produzido(produzido) { this.produzido = produzido; }  
  
    toString() {  
        return `${super.toString()} Validade: ${this.validade} Produzido: ${this.produzido}`;  
    }  
}
```

A Herança permite a especialização de uma Classe, desta forma poderemos ampliar as implementações de algoritmos além do que já foi declarado na Super Classe.

Utilizamos a palavra reservada **extends** para criar herança entre classes.

Usamos **this** para referenciar o próprio objeto e **super** para referenciar o objeto pai.

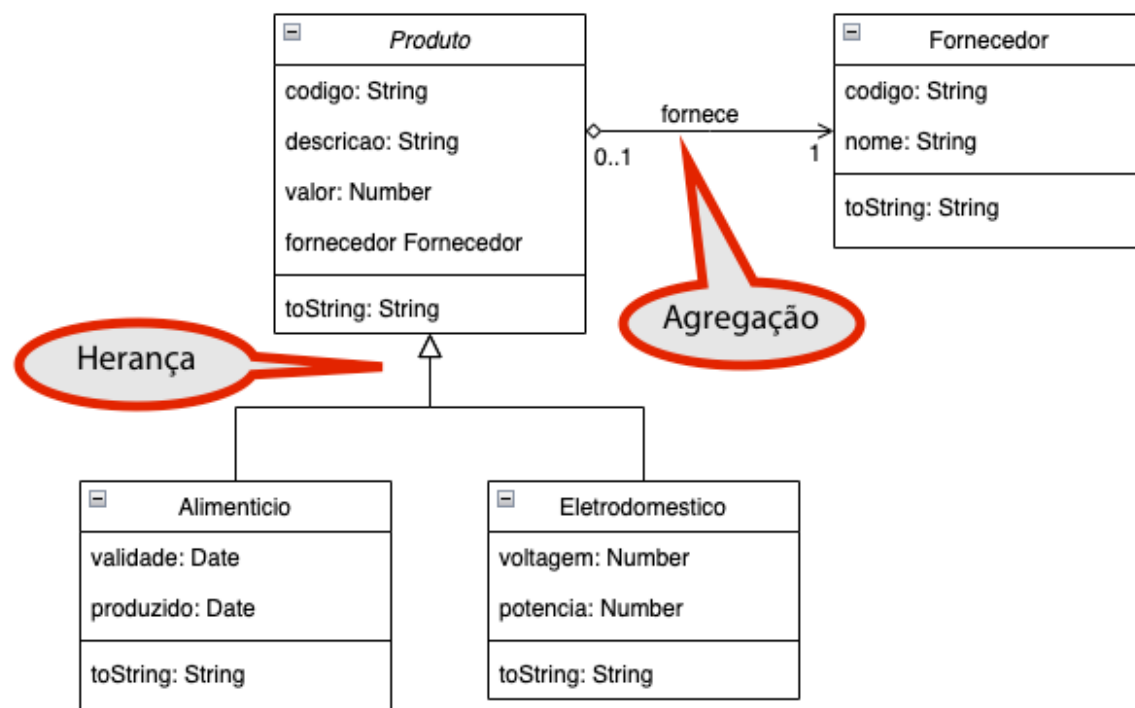
Agregação e Composição



Chamamos de agregação ou composição, quando uma classe necessita de outra para sua construção.

Se a relação entre as classes é mais fraca chamamos de **agregação**, se for mais forte chamamos de **composição**.

Diagrama



No diagrama a relação de herança é representada por uma flexa saindo da classe *filha* para a classe *pai*.

Na relação de agregação utilizamos um losango *vazio*, já na relação de composição utilizamos um losango *cheio*.

Duvidas?

**Bons estudos e
até breve!**