

## Class Method and Static Method

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- class Demo:  
    def norm\_function(self, value):  
        print("Method", self.\_\_class\_\_, value)  
    @classmethod  
    def class\_function(clas, value):  
        print("Method", clas.\_\_name\_\_, value)  
    @staticmethod  
    def static\_function(value):  
        print("Method", value)

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## Real Estate Application

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## Problem Statement

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- Designing a simple real estate application that allows an agent to manage properties available for purchase or rent. There will be two types of properties: apartments and houses.
- 1: The agent needs to be able to enter a few relevant details about new properties.
- 2: List all currently available properties.
- 3: Mark a property as sold or rented.

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## Problem Statement

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- House and Apartment are both types of properties
- House and Apartment inherit from Property
- Property will have associated attributes
  - square\_feet
  - num\_bedrooms
  - num\_bathrooms

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- **House:** num\_stories, garage [attached, detached, or none] and fenced\_yard
- **Apartment:** balcony, laundry [ensuite, coin, or off-site]
- **Rental:** rent, furnished, utilities
- **Purchase:** price, taxes

```

classDiagram
    class Agent {
        +property_list
        +list_properties(show_all=False)
        +add_property(property_type, purchase_type)
    }
    class Property {
        +square_feet
        +num_bedrooms
        +num_bathrooms
        +display()
        +prompt_init()
    }
    class Apartment {
        +balcony
        +laundry
        +display()
        +prompt_init()
    }
    class House {
        +num_stories
        +garage
        +fenced_yard: boolean
        +display()
        +prompt_init()
    }
    class HouseRental
    class HousePurchase
    class ApartmentPurchase
    class ApartmentRental
    class Purchase {
        +price
        +taxes
        +display()
        +prompt_init()
    }
    class Rental {
        +furnished
        +utilities
        +rent
        +display()
        +prompt_init()
    }

    Agent --> Property
    Agent --> Apartment
    Agent --> House
    Agent --> Purchase
    Agent --> Rental
    Apartment --|> Agent
    House --|> Agent
    HouseRental --|> HousePurchase
    HousePurchase --|> ApartmentPurchase
    ApartmentPurchase --|> ApartmentRental
    Purchase --|> Rental
    Rental --|> HouseRental
    
```