

Object Oriented Programming



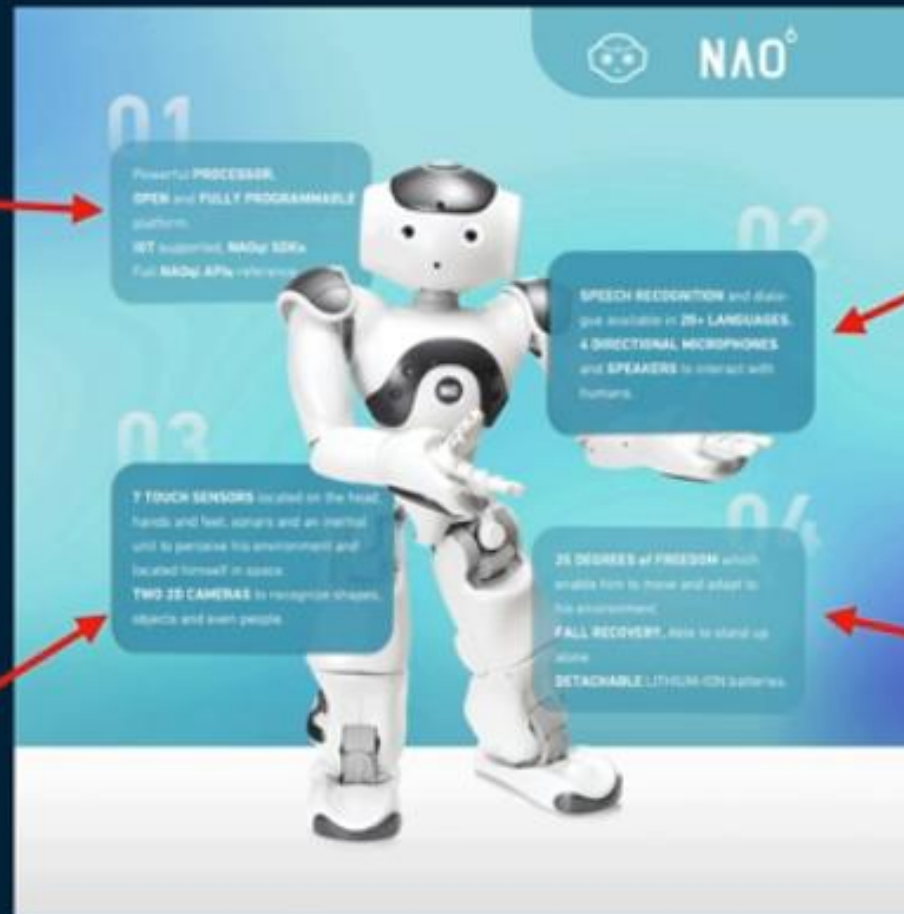


Team1

Team3

Team2

Team4



Processor

Search Recognition

Touch Sensors



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udemy

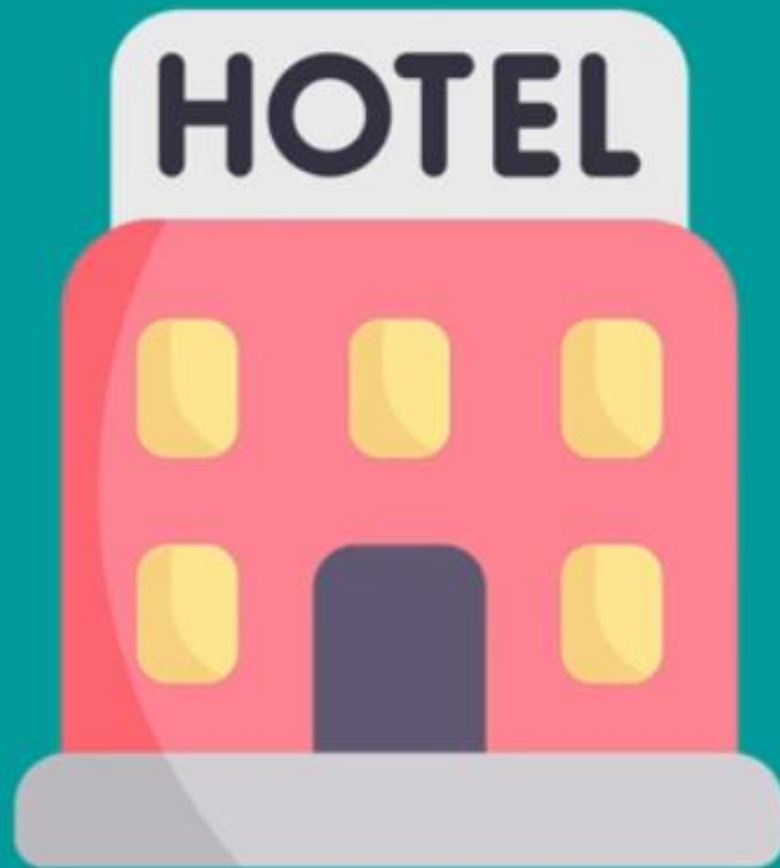
Object Oriented Programming

Processor

Search Recognition

Touch Sensors





Receptionist



Housekeeper

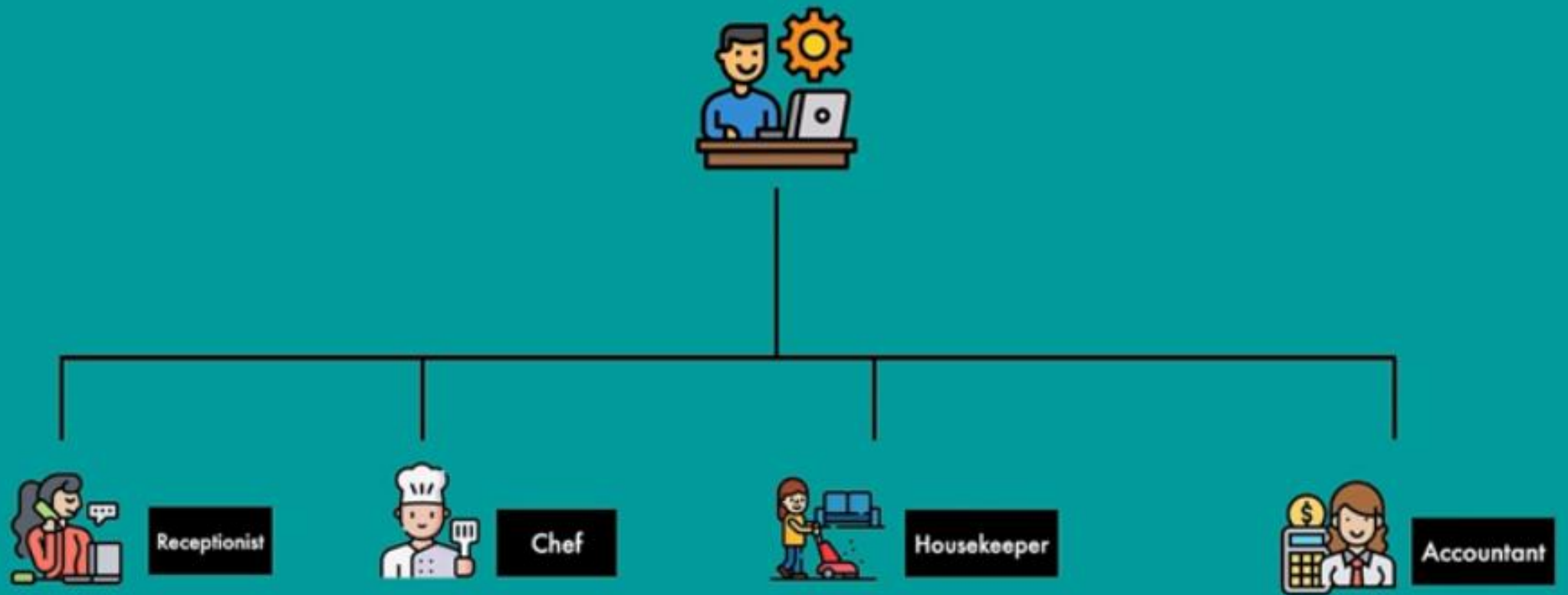


Chef



Accountant





OOP Concepts

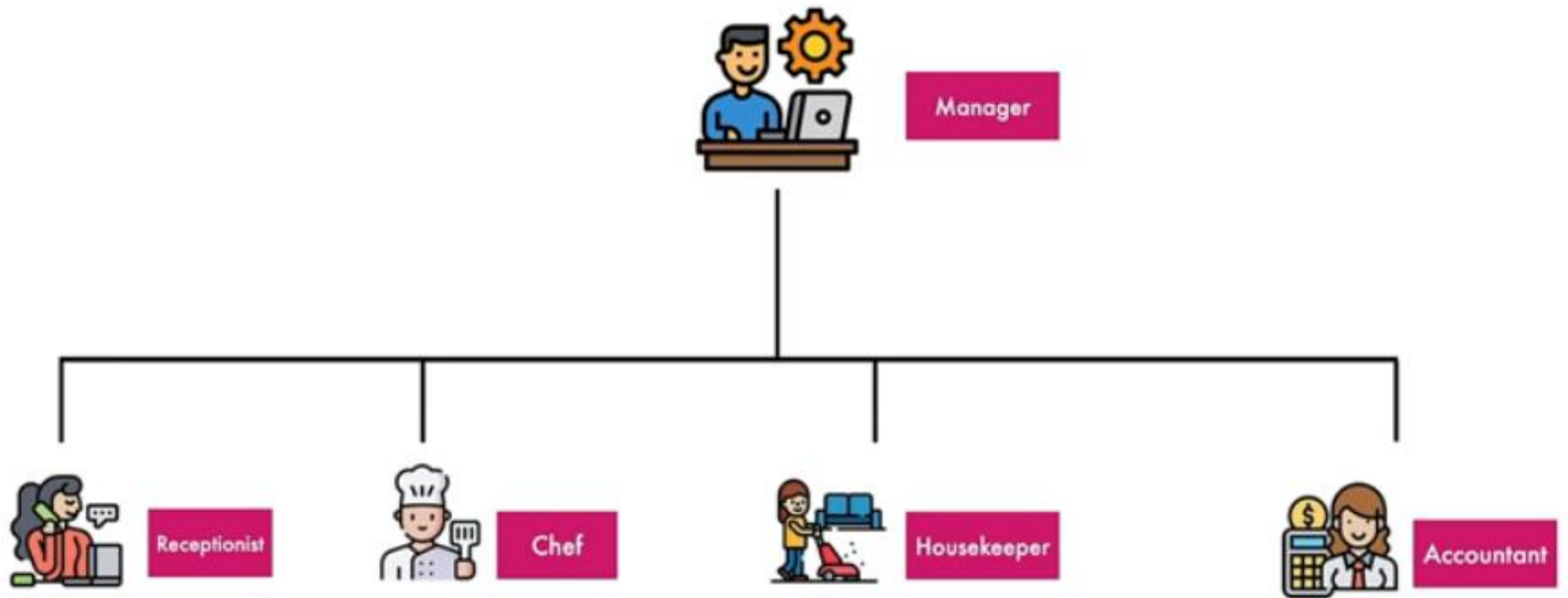
Classes

Objects

Attributes

Methods







Housekeeper

has:

```
is_cleaning_now = True  
responsible_floors = [2, 3]
```

does:

```
def clean(floor, room):  
    #clean the room  
  
def notify(floor, room):  
    #notify superiors on any  
    damages, deficits and  
    disturbances
```





Housekeeper

attributes:

```
is_cleaning_now = True  
responsible_floors = [2, 3]
```

methods:

```
def clean(floor, room):  
    #clean the room  
  
def notify(floor, room):  
    #notify superiors on any  
    damages, deficits and  
    disturbances
```



Class

Housekeeper



Object



Merry



Jane



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Objects



Full
Empty
Half



Objects



Attributes

- Color
- Size
- Weight

Behaviour

- Ring
- Text
- Music



Objects

All objects have:

- **Identity** - Elshad's cellphone
- **Attributes** - color, size, weight
- **Behaviors** - call(), text(), music()



Objects

Date

Time

Bank Account

Bank Account

Number: **12335474**

Balance: **\$10000**

deposit()

withdraw()

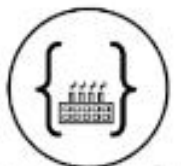
Bank Account

Number: **7654987**

Balance: **\$101010**

deposit()

withdraw()



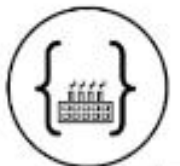
Objects

Objects = Nouns

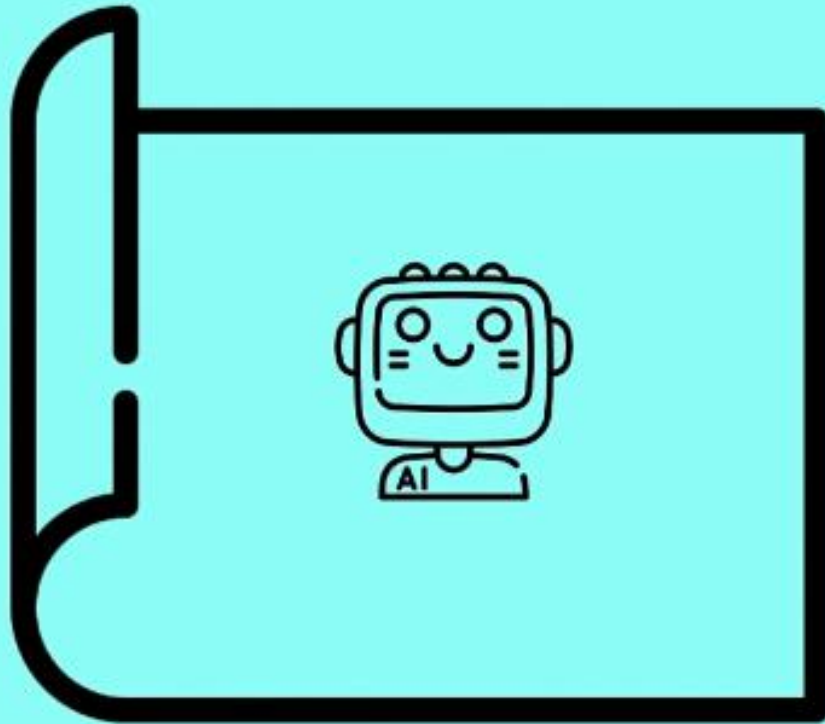
- Things
- Places
- Ideas
- People
- Concepts

Behaviors = Verbs

- Calling
- Texting
- Playing



Class



Object



Object

Class

```
robot_a = RobotBlueprint()
```

```
robot_b = RobotBlueprint()
```





attributes:

```
battery_level = 12  
degrees_of_freedom = 25
```

Robot

Object

Attribute

`robot.battery_level`



Robot

attributes:

```
battery_level = 12  
degrees_of_freedom = 25
```

methods:

```
def detect_speech():  
    #do something  
  
def move():  
    #do some other things
```



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Robot

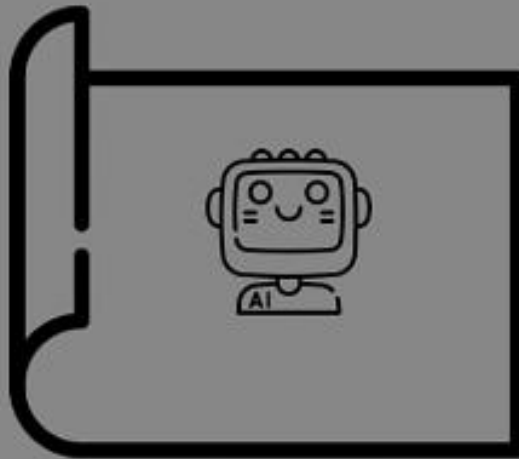
methods:

```
def detect_speech():  
    #do something  
  
def move():  
    #do some other things
```

Object

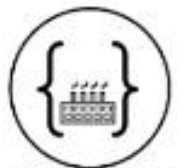
Method

`robot.detect_speech()`



Class

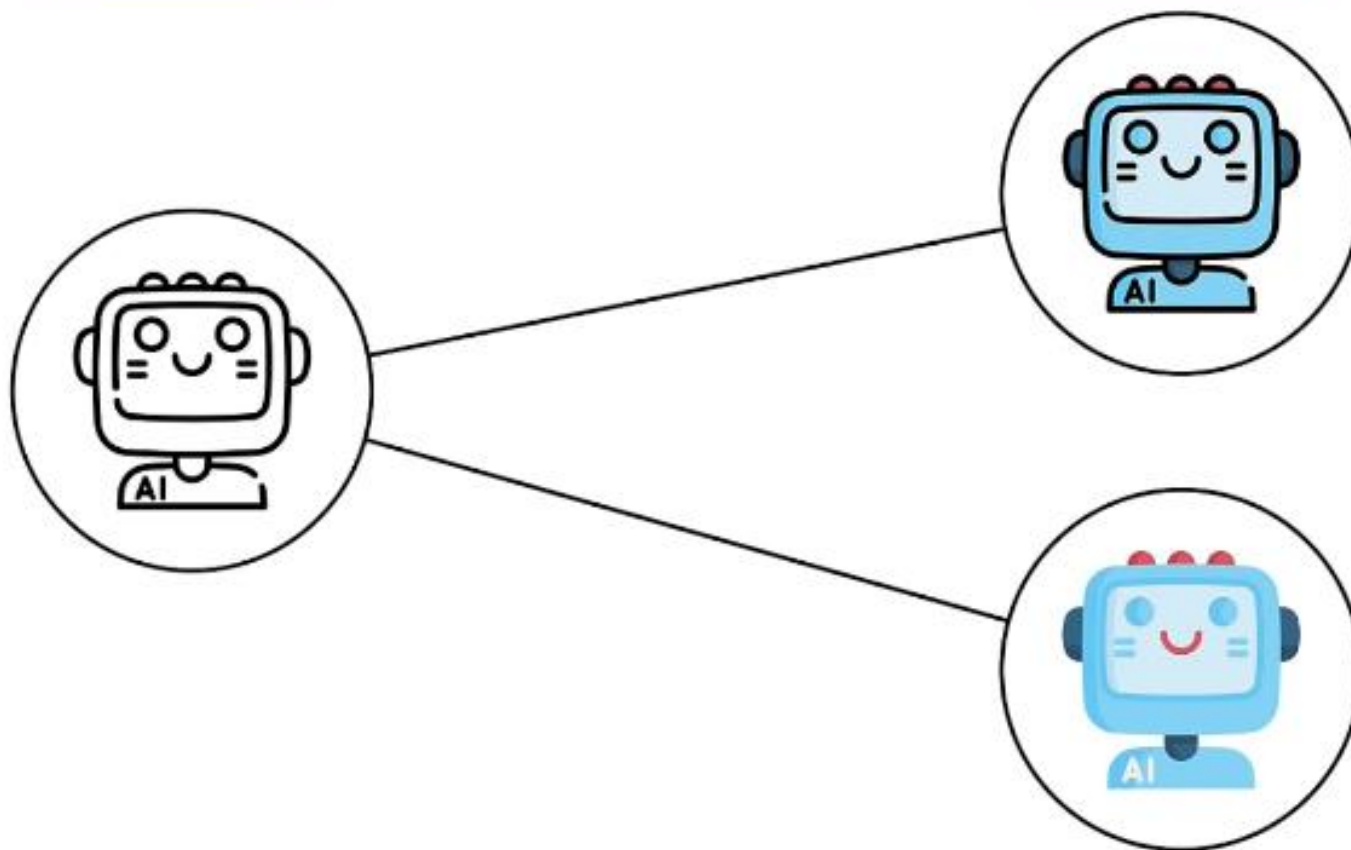
Code template for creating program objects



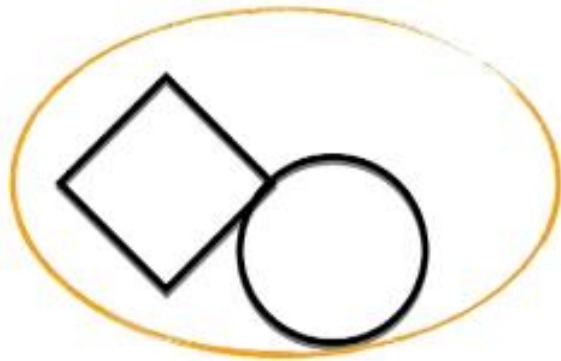
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Class

Object



Cookie Cutters



Class

Cookies



Objects

Class Components

Name: **What is it?**

StarCookie

Attributes: **What describes it?**

weight, color

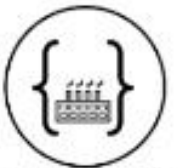
Behavior: **What can it?**

decorate(),
consume()



Method

- A block of code or program procedure that can be called to perform some actions and it may return a value.
- Defined as a part of class



StarCookie
weight color
decorate() consume()

Class



star_cookie1

15 grams orange decorate() consume()

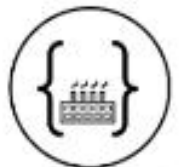


star_cookie2

15 grams red decorate() consume()
--

object (instance)

Creating objects = instantiation



Our own Class

