

# Forritunarmálið Python

Day 8  
Classes

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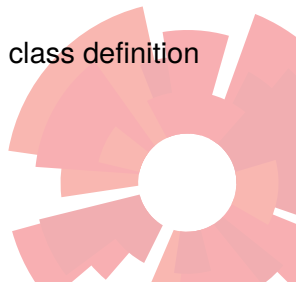


# Classes



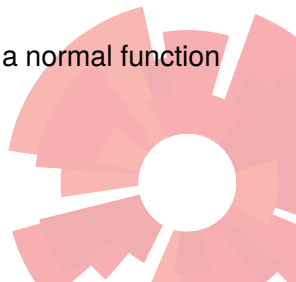
# Classes in Python

- Create a new namespace
- A dictionary under the hood
- No such thing as “private”
  - Variables and methods starting with `_` should not be messed with
- Attributes do not need to be defined in the class definition



# Classes vs instances

- Classes and instances can have attributes
  - Can reference class attributes through instances
- Class functions can be called in two ways
  - When called on an instance, the first parameter is the instance itself
  - When called on a class, it behaves as a normal function



# Inheritance

## ■ `isinstance`

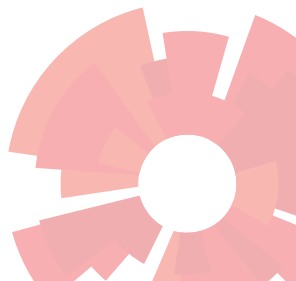
- Check if an object is an instance of a class or a subclass thereof

## ■ `issubclass`

- Check if a class is a subclass (or same class) as another

## ■ `super`

- Call the constructor of a superclass
- Python supports multiple inheritance



# Static methods and class methods

- `staticmethod`

- A decorator that defines a method as a static method

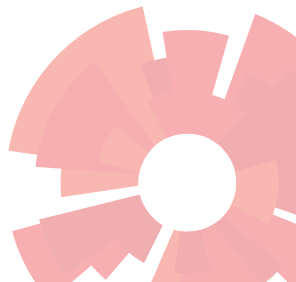
- `classmethod`

- A decorator that defines a method as a class method



# Properties

- `prop = property(fun1, fun2)`
- Decorator



# Special functions

## ■ String representation

- `__repr__`, `__str__`

## ■ Indexing

- `__getitem__`, `__setitem__`

## ■ Attributes

- `__getattr__`, `__setattr__`

## ■ Builtin functions

- `__len__`, `__bool__`

## ■ Operators

- `__eq__`, `__ne__`, `__lt__`, `__le__`, `__gt__`, `__ge__`

## ■ Iterator

- `__iter__`

