

LU04.L01 - Parametrisierte Konstruktoren

bicycle.py

```
"""
a class representing a bike
"""
class Bicycle:
    """
    A bicycle with some attributes and methods

    Attributes
    -----
    _biketype: str
    _size: int
    _color: str
    """

    def __init__(self, biketype='mountainbike', size=48):
        """
        Constructor with biketype and size.
        """
        self._biketype = biketype
        self._size = size
        self._color = 'gray'

    @property
    def biketype(self):
        """
        Gets the biketype of this bicycle.
        """
        return self._biketype

    @property
    def size(self):
        """
        Gets the size of this bicycle.
        """
        return self._size

    @property
    def color(self):
        """
        Gets the color of this bicycle.
        """
        return self._color

    @biketype.setter
```

```
def biketype(self, biketype):
    """
    Sets the biketype of this bicycle.
    """
    self._biketype = biketype

@size.setter
def size(self, size):
    """
    Sets the size of this bicycle.
    """
    self._size = size

@color.setter
def color(self, color):
    """
    Sets the color of this bicycle.
    """
    self._color = color

def __str__(self):
    """
    returns a human-readable representation of the object.
    :return:
    """
    return(
        f'Fahrrad:\n'
        f'\tArt:           {self._biketype}\n'
        f'\tRahmengrösse:    {self._size}\n'
        f'\tFarbe:           {self._color}'
    )

if __name__ == '__main__':
    # Aufgabe 1
    bicycle = Bicycle()
    bicycle.print()
    #
    bicycle = Bicycle(biketype='racebike')
    bicycle.print()
    #
    bicycle = Bicycle(biketype='citybike', size='42')
    bicycle.print()
    #
    # Aufgabe 2
    #
    bicycle.color = 'red'
    bicycle.print()
```

M320-LU04

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