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Section: C203

FLT1

Problem.

For this program, you are tasked to define the following:

Class - Car:

- Properties:
  - `color` (type: str): Represents the color of the car.
  - `price` (type: float): Holds the price of the car.
  - `size` (type: str): Indicates the size of the car, where 'S' represents small, 'M' represents medium, and 'L' represents large.
- Constructor:
  - `__init__(self, color: str, price: float, size: str)`: Initializes the car's `color`, `price`, and `size` properties. The `size` is standardized to uppercase using `size.upper()`.
- Methods
  - Getter Methods:
    - `get_color(self) -> str`: Returns the car's color.
    - `get_price(self) -> float`: Returns the car's price.
    - `get_size(self) -> str`: Returns the car's size.
  - Setter Methods:
    - `set_color(self, color: str) -> None`: Sets the car's color to the specified value.
    - `set_price(self, price: float) -> None`: Sets the car's price to the specified value.
    - `set_size(self, size: str) -> None`: Sets the car's size to the specified value. The size should be one of 'S' for small, 'M' for medium, or 'L' for large. Use conversion of lowercase characters to uppercase using `size.upper()`.
  - `__str__` Method:
    - `__str__(self) -> str`: Returns a formatted string representing the car, following the format "Car (color) - P(price, formatted to two decimal places) - (size descriptor)". The size descriptor is determined based on the size character ('small' for 'S', 'medium' for 'M', and 'large' for 'L').
    - Example Strings:
      - For a red car priced at 19999.85 and of medium size: "Car (red) - P19999.85 - medium"
      - For a blue car priced at 50000.00 and large: "Car (blue) - P50000.00 - large"

Code.

```python
class Car:
    def __init__(self, color: str, price: float, size: str = "Unknown"):
        self.color = color
        self.price = price
        self.setSize(size)

    def getColor(self):
        return self.color

    def getPrice(self):
        return self.price

    def getSize(self):
        return self.size

    def checkIfSizeValid(self, size):
        if size == 'S' or size == 'M' or size == 'L':
            return size

    def checkCarSize(self, size):
        if size == 'S':
            return "small"
        elif size == 'M':
            return 'medium'
        elif size == 'L':
            return 'large'

    def setColor(self, color):
        self.color = color

    def setPrice(self, price):
        self.price = price

    def setSize(self, size):
        self.size = self.checkIfSizeValid(size).upper()
```

```python
    def __str__(self):
        string = (f"Car ({self.color}) - P{self.price:.2f} - {self.checkCarSize(self.size)}")
        return string

def main():
    car1 = Car("red", 19999.85, 'M')
    car2 = Car("blue", 50000.00, 'L')
    car3 = Car("green", 12345.67, 'S')
    print(car1.__str__())
    print(car2.__str__())
    print(car3.__str__())

main()
```

Output.

```
PS C:\Users\Shalom\Desktop\projects> & 
Car (red) - P19999.85 - medium
Car (blue) - P50000.00 - large
Car (green) - P12345.67 - small
PS C:\Users\Shalom\Desktop\projects>
```