

```

# =====
# Chapter 5: OOP
# =====
print("\n--- Chapter 5 Solutions ---")

# 1. Rectangle Class
class Rectangle:
    def __init__(self, width, height):
        self.width, self.height = width, height
    def area(self): return self.width * self.height
    def perimeter(self): return 2 * (self.width + self.height)

r = Rectangle(4, 5)
print(f"Rectangle Area: {r.area()}, Perimeter: {r.perimeter()}")

# 2. Employee Alternative Constructor
class Employee:
    def __init__(self, name, emp_id, salary):
        self.name, self.emp_id, self.salary = name, emp_id, salary

    @classmethod
    def from_string(cls, emp_str):
        name, emp_id, salary = emp_str.split(',')
        return cls(name.strip(), emp_id.strip(), int(salary.strip()))

    def display_info(self):
        print(f"Employee: {self.name}, ID: {self.emp_id}")

Employee.from_string("John Doe, E123, 50000").display_info()

# 3. Vehicle Hierarchy
class Vehicle:
    def move(self): print("Vehicle is moving")

class Car(Vehicle):
    def move(self): print("Car is driving")

class Bike(Vehicle):
    def move(self): print("Bike is cycling")

for v in [Car(), Bike()]: v.move()

```