

1. Write a class **Student** with fields **name** and **age**. Create a constructor that uses the **this** keyword to distinguish between instance variables and parameters.
2. Create a class **Rectangle** with two constructors: one that accepts both width and height, and another that only accepts width and sets a default height. Use the **this()** constructor chaining to avoid redundancy.
3. Write a class **Chain** where methods **step1()**, **step2()**, and **step3()** return **this** to allow method chaining.
4. Create a parent class **Animal** with a method **makeSound()** and a subclass **Dog** that overrides this method. Use the **super** keyword to call the parent class's method in the overridden version.
5. Write a class **Person** with a constructor that accepts **name** and **age**. Create a subclass **Employee** that accepts **name**, **age**, and **salary**, and use **super()** to initialize the name and age.
6. In the class **Vehicle** with a method **move()**, create a subclass **Car** that overrides **move()**. Use **super.move()** to call the superclass version inside the overridden method.
7. Write a class **Parent** with a method **display()**, and a subclass **Child** with a constructor that uses **super()** to call the parent class constructor. Use both **super.display()** and **this.display()** in the child class.
8. Create a class **Building** with overloaded constructors. Then create a class **House** that extends **Building**, and use **super()** to call different constructors from the superclass based on input parameters.
9. Create a class with an inner class and use **this** to refer to the outer class's instance variables or methods.
10. Implement a **Human** class with two constructors. Create a **Student** class that calls both the **Human** constructors in different ways using **super()**.