C++ Pointers & Inheritance Practice

Polymorphic Access Practice (Level 3)

Problem 1: Shape Drawer

Classes: Shape (base), Circle, Square (derived)

- Add a virtual void draw() in Shape

- Override draw() in Circle and Square

- Write void render(Shape* s) that calls s->draw()

Goal: render() should call the correct draw() version

Problem 2: Instrument Player

Classes: Instrument (base), Piano, Drum (derived)

- Override void play() in each subclass

- Write void playDemo(Instrument* i)

- Create a list of Instrument* and fill with different types

Goal: Loop over the list and call playDemo()

Problem 3: Employee Salary Report

Classes: Employee (base), Manager, Engineer (derived)

- Employee has virtual double getSalary()

- Manager adds a bonus to base salary

- Engineer adds experience years ✕ rate

- Write void printSalary(Employee* e)

Goal: printSalary() should reflect the actual type's salary