client <<interface>> StateContext # currentExpression: Expression + getCurrentExpression(): Expression + resetCurrentExpression(): void + setCurrentExpression(Expression e): void + getErrorPopupInput(): boolean Context **Composite Structure** CalculatorView Context Expression + current: State + CalculatorView(): CalculatorView + attach(listener: ActionListener): void + addLeft(): void + addRight(): void + updateDisplay(): void + popUp(): boolean + setOperator(op: char): void Subject Start + getLeft(): Expression + getRight(): Expression + acceptVisitor(v: ExpressionVisitor): void <<interface>>
ActionListener +getNextState(input: char): State Observer Structure GetFirstOp + actionPerformed(e: ActionEvent) MulDivExpression AddSubExpression Abstract Observer +getNextState(input: char): State Structure + addLeft(): void + addLeft(): void WaitAddSub + addRight(): void + addRight(): void CalculatorDriver State + setOperator(op: char): void + getLeft(): Expression + setOperator(op: char): void - calculationOccurred: boolean + getLeft(): Expression # currentExpression: Expression - displayText: String # context: StateContext + getRight(): Expression + getRight(): Expression +getNextState(input: char): State + acceptVisitor(v: ExpressionVisitor): void + acceptVisitor(v: ExpressionVisitor): void - currentState: State + State(context: StateContext): State - calculatorView: CalculatorView Composite Composite - currentExpression: Expression + getNextState(input: char): State - finalSocket: Socket + getCurrentText(): String GetAddSub ipAddress: String - <u>port</u>: int AtomicExpression Abstract + main(args: String[]): void + actionPerformed(e: ActionEvent) +getNextState(input: char): State State + getErrorPopupInput(): boolean WaitMulDiv +operation() + getCurrentExpression(): Expression + resetCurrentExpression(): void Leaf + setCurrentExpression(Expression e): void + getErrorPopupInput(): boolean +getNextState(input: char): State Concrete Observer **Visitor Structure** GetMulDiv <<interface>> ExpressionVisitor +getNextState(input: char): State + visit(e: AddSubExpression) + visit(e: MulDivExpression) Calculate + visit(e: AtomicExpression) Context +getNextState(input: char): State Abstract Visitor Error SolveVisitor result: double +getNextState(input: char): State + visit(e: AddSubExpression) + visit(e: MulDivExpression) Concrete States + visit(e: AtomicExpression) + getResult(): double Concrete Visitor

