

Calculator CRC Model

The Basis





Entity



User

Responsibility: Takes in the user information which will be sent to the `UserHandler` class

Collaborators: `UserHandler`



History

Responsibility: Keeps track of the history of all previous calculations.

Collaborators: `InputProcessor`



Expression

Responsibility: Takes in 2 numeric values and an operator, and creates an expression.

Collaborators: ExpressionHandler



Equation

Responsibility: Takes 2 expressions, and compares both sides of the equations.

Collaborators: EquationHandler



Use Case





InputProcessor

Responsibility: Computes the input, and determines whether it an Expression or an Equation.

Collaborators: Expression, Equation and Matrix processor



ExpressionHandler

Responsibility: Handles all operator related operations.

Collaborators: Expression



LinIndepHandler (Future Goal)

Responsibility: Handles checking if a given set of matrices is linearly independent.

Collaborators: RREFHandler



EquationHandler

Responsibility: Handles all equation related operations.

Collaborators: Equation



RREFHandler (Future Goal)

Responsibility: Handles checking if the given matrix is in Row-Reduced Echelon Form.

Collaborators: MatrixProcessor and Matrix



Controller



UserHandler

Responsibility: Stores the user information, and the question they ask.

Collaborators: WalkthroughCustomInput



WalkthroughCustomInput

Responsibility: Receives the input, and makes sure it is valid before sending it off to the appropriate class.

Collaborators: validateInput



Command Line Interface





Calculator HTML (Future Goal)

Responsibility: Will be the website page for the Calculator

Collaborators: WalkthroughCustomInput



WalkthroughCustomInput

Responsibility: The user can run this file, and type in a expression to compute through the console. The output will be displayed in the console.

Collaborators: InputProcessor