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| Class: LawOfCoulomb |
| 1. Call and Display sub window for Coulomb’s law(F=kq1q2/r^2) and Buttons which extends the abstract class buttonsAndContainer. 2. Initialize the charge to positive 5 microcoulombs for both of the charges and the distance between the charges to be 1 cm. 3. Declare sliders to change values for both of the charges. Reminder: The charges have to be between 1mc to 50mc. 4. Initialize two circles images (to show two charges) and a line that connects both of the circles. The line will have a label that will show the exact distance between the two circles 5. Declare and initialize variables from the bean PhysicsProperties(charge1, charge2, distance). All of these variables will be used for either the graph or the animation. 6. Charge1, charge2 and distance will be taken from the user input from different text boxes. 7. F=k\*charge1\*charge2/distance^2 8. Initialize an animation that will move the two charges away of each other and see how the force changes and which direction it goes. The distance will increase gradually. 9. Initialize a graph on the bottom right quadrant with the x axis as distance and the y axis as force. On the graph a dot will be drawn every cm. 10. Store the animation the graph and the buttons in their corresponding containers declared in the abstract class. 11. User can then select one of the 5 button options that are called by the abstract class. 12. User selects Start.     1. Trigger an event that calls and plays animation for the distance to increase until a certain value. The animation plays once.     2. Create graph R vs F 13. User selects Done.     1. Sub window exits and message appears on main window asking for the user to select and option. 14. User selects Pause.     1. Pause animation for the distance, the and for the graph.  If pressed when no animation is playing, does nothing. 15. User selects Reset.     1. Reinitialize animation and graph. Sets back the animation of the distance and the graph and the values of the variables. 16. User selects Help.     1. Display window with help directives to the user. |