

Graphing Calculator

Defect Log

Team 25: Shuqi Ma, Xuan Zhao, Mingyong Cai, Shiwen Xu, Mingqi Han

Note: 1 means highest severity, 3 means lowest severity.

Design Inspection

Product	Graphing Calculator Design Inspection		
Date	02/28/2019		
Author	Shuqi Ma, Xuan Zhao, Mingyong Cai, Shiwen Xu, Mingqi Han		
Moderator	Shiwen Xu, Mingqi Han		
Inspectors	Shuqi Ma, Xuan Zhao, Mingyong Cai, Shiwen Xu, Mingqi Han		
Recorder	Shuqi Ma		
Defect #	Description	Severity	How Corrected
1	Operator buttons do not include arcsin, arctan, ,arccos, log, ln, and sqrt	2	Add additional buttons to the operator buttons
2	y range should also be able to be setted by user, in order to perform the function zoom	1	Create function that controls the canvas' y range.
3	There exists situation where graph is not centered at origin, so extra axis drawing	2	Created new functions to encounter situations of x, y axis separately

	method is needed		
4	There exists situation where graph of a function is only a dot, which reflecting on canvas could be problematic and hard to observe	2	Design new scheme for drawing specific point
5	Need specification for each drawn function, for example label, functions written near it, etc., to help discriminate functions as more functions are drawn, the more color are used and harder to distinguish	2	Added new functions to label each line on the graph at appropriate position, may also include intervals.
6	Method for analyzing y range while drawing the function redesigned because analyzer in parsing steps may not be able to give appropriate and exact value	1	New method constructed during drawing steps.

Code Inspection

Product	Graphing Calculator Code Inspection		
Data	02/28/2019		
Author	Graphing part team		
Inspectors	Mingqi Han, Mingyong Cai		
Defect #	Description	Severity	How Corrected

1	The adjustment of the graph is not automatically, and you need to manually revise the input.	1	Correct the algorithm that deals with the domain and range of the graph.
2	Code for assigning colors should be refined for piecewise functions as they are not transmitted as a single function-tree, potential error may occur	2	Uses java's color structure to specify each color for graph and link piecewise function together for easier changing.
3	There are a lot of unused variables in the function FunctionPanels	3	Either delete or revise all the unused variables in the field of FunctionPanels.
4	The color of the x-axis and y-axis and the label's color is the same to the line drawn.	1	Change the color of x-axis and y-axis to fixed at black, and the label is fixed at black color.
5	There is no way to include situation when the y interval is tend to infinity at left side or right side or both, drawing may not reflect the true tendency of graph or even cause problems when drawing.	1	Create new function that's able to interpret an interval by two parts when one side is infinity (or both side are infinity), by probing out the trend of the function that's ignoring little bit of graph but without the loss of generality.

Defect: These two functions should be static.

Unit Testing

Product	Graphing Calculator Module Unit Test		
Date	02/28/2019		
Author	Xuan Zhao		
Defect#	Description/(Input& Expected output)	Severity	How to correct
1	Clean button only cleans the equation. It should also clean the graph on the canvas	1	Create a new array to store all graph information, a boolean variable will be returned to the backend if user clicked clean button.
2	User can only open/close range interval button once. After that, the button does not work any more	1	repain() and setvisible() should be called after each revision of the User Interface
3	Only the first function will be plotted on the canvas	1	Send all inputs recursively to backend
4	After adding six functions, the delete button disappear	1	Function Panel now contains delete button all the time
5	The program only recognize 3*x, not 3x	2	Include a special case in parsing when user omits multiply symbol
6	The program should alert user if user input invalid characters (such as \$, #,@)	2	If detect unknown characters, alert user "invalid input"