

Table1 The original class NumberAxis in JFreeChart

Original Class NumberAxis	
Attributes	Methods
DEFAULT_MINIMUM_AXIS_VALUE	getMinimumAxisValue()
DEFAULT_MAXIMUM_AXIS_VALUE	setMinimumAxisValue(Number)
DEFAULT_UPPER_MARGIN	getMaximumAxisValue()
DEFAULT_LOWER_MARGIN	setMaximumAxisValue(Number)
DEFAULT_MINIMUM_AUTO_RANGE	autoRangeIncludesZero()
DEFAULT_TICK_UNIT	setAutoRangeIncludesZero(boolean)
minimumAxisValue	getAutoRangeMinimumSize()
maximumAxisValue	setAutoRangeMinimumSize(Number)
autoRangeIncludesZero	getUpperMargin()
autoRangeMinimumSize	setUpperMargin(double)
upperMargin	getLowerMargin()
lowerMargin	setLowerMargin(double)
tickUnit	getStandardTickUnits()
standardTickUnits	setStandardTickUnits(TickUnits)
	getTickUnit()
	valueToString(Number)
	calculateLowestVisibleTickValue()
	calculateHighestVisibleTickValue()
	calculateVisibleTickCount()
	createStandardTickUnits()

Table2 The new classes extracted by developers

Class Extracted by the Developers - 1	
Attributes	Methods
DEFAULT_UPPER_MARGIN	autoRangeIncludesZero()
DEFAULT_LOWER_MARGIN	setAutoRangeIncludesZero(boolean)
DEFAULT_MINIMUM_AUTO_RANGE	getAutoRangeMinimumSize()
DEFAULT_TICK_UNIT	setAutoRangeMinimumSize(Number)
autoRangeIncludesZero	getUpperMargin()
autoRangeMinimumSize	setUpperMargin(double)
upperMargin	getLowerMargin()
lowerMargin	setLowerMargin(double)
tickUnit	getStandardTickUnits()
standardTickUnits	setStandardTickUnits(TickUnits)
	getTickUnit()
	valueToString(Number)
	calculateLowestVisibleTickValue()
	calculateHighestVisibleTickValue()
	calculateVisibleTickCount()
	createStandardTickUnits()
Class Extracted by the Developers - 2	
Attributes	Methods

DEFAULT_MINIMUM_AXIS_VALUE	getMinimumAxisValue()
DEFAULT_MAXIMUM_AXIS_VALUE	setMinimumAxisValue(Number)
minimumAxisValue	getMaximumAxisValue()
maximumAxisValue	setMaximumAxisValue(Number)

Table3 The new classes extracted by our approach

Class Extracted our approach - 1	
Attributes	Methods
upperMargin	getLowerMargin()
DEFAULT_LOWER_MARGIN	setLowerMargin(double)
DEFAULT_UPPER_MARGIN	getAutoRangeMinimumSize()
lowerMargin	setAutoRangeMinimumSize(Number)
DEFAULT_MINIMUM_AUTO_RANGE	setAutoRangeIncludesZero(boolean)
DEFAULT_TICK_UNIT	createStandardTickUnits()
autoRangeMinimumSize	getUpperMargin()
standardTickUnits	setUpperMargin(double)
autoRangeIncludesZero	getStandardTickUnits()
	setStandardTickUnits(units)
	createStandardTickUnits()
Class Extracted our approach - 2	
Attributes	Methods
maximumAxisValue	setMaximumAxisValue(Number)
DEFAULT_MAXIMUM_AXIS_VALUE	setMinimumAxisValue(Number)
DEFAULT_MINIMUM_AXIS_VALUE	calculateVisibleTickCount()
minimumAxisValue	calculateLowestVisibleTickValue()
tickUnit	getMinimumAxisValue()
	valueToString(Number)
	calculateHighestVisibleTickValue()
	getMaximumAxisValue()
	getTickUnit()