|  |  |  |
| --- | --- | --- |
| **Non-Inheritance Extract Class Refactoring Suggestions** | | |
| Original Class  [*N*split] | Extract Class | |
| New Class  [Superclass]  [Subclass] | Methods/Fields |
| XMLElement  [3] | XMLElement\_new\_1  [-]  [-] | getLineNr()  lineNr  getStringAttribute(String,String)  getStringAttribute(String)  NANOXML\_MINOR\_VERSION  parseCharArray(char[], int, int, int)  parseCharArray(char[], int, int)  NANOXML\_MAJOR\_VERSION  serialVersionUID  parseString(String)  parseString(String, int, int)  parseString(String, int)  XMLElement()  XMLElement(HashMap)  XMLElement(boolean)  XMLElement(HashMap, boolean)  parseString(String, int, int, int)  XMLElement(HashMap, boolean, boolean,  boolean)  XMLElement(HashMap, boolean, boolean)  parseFromReader(Reader)  toString()  print(PrintWriter)  isEncodeUnicodeCharacters  writeEncoded(Writer,String)  setContent(String)  getContent()  contents  XMLElement(HashMap, boolean, boolean,  boolean, boolean)  getName()  setName(String)  name  parseFromReader(Reader, int)  print(PrintWriter, int)  write(Writer)  addChild()  removeChild()  getChildren()  children  iterateChildren()  countChildren() |
| XMLElement\_new\_2  [-]  [-] | createElement(String)  getAttribute(String)  getIntAttribute(String, int, int, int)  getIntAttribute(String)  getDoubleAttribute(String)  getStringAttribute(String,HashMap,String, boolean)  getBooleanAttribute(String, boolean)  createElement()  ignoreCase  attributes  enumerateAttributeNames()  setAttribute(String,Object)  getBooleanAttribute(String,String,String, boolean)  getAttribute(String,Map,String, boolean)  getDoubleAttribute(String, double)  getAttribute(String,Object)  getDoubleAttribute(String,HashMap,String,  boolean)  getIntAttribute(String,HashMap,String, boolean)  removeAttribute(String)  setIntAttribute(String, int)  setDoubleAttribute(String, double)  getIntAttribute(String, int) |
| XMLElement\_new\_3  [-]  [-] | reader  charReadTooMuch  unreadChar(char)  readChar()  expectedInput(String)  unknownEntity(String)  syntaxError(String)  unexpectedEndOfData()  invalidValue(String,String)  invalidValueSet(String)  parserLineNr  resolveEntity(StringBuffer)  entities  skipSpecialTag(int)  skipComment()  scanWhitespace()  checkLiteral(String)  scanPCData(StringBuffer)  scanString(StringBuffer)  scanWhitespace(StringBuffer)  ignoreWhitespace  scanElement()  scanIdentifier(StringBuffer)  checkCDATA(StringBuffer) |
| DefaultDrawingView  [3] | DefaultDrawingView\_new\_1  [HandleListener]  [-] | repaint(Rectangle2D$Double)  firePropertyChange(String,Object,Object)  getBackground()  getHeight()  getWidth()  getPreferredSize()  preferredSize  invalidateDimension()  translate  drawBackground(Graphics2D)  drawDrawing(Graphics2D)  emptyDrawingLabel  getEmptyDrawingMessage()  setEmptyDrawingMessage(String)  addFocusListener(FocusListener)  getToolkit()  listenerList  fireSelectionChanged()  secondaryHandleOwner  getDOMFactory()  setDOMFactory(DOMFactory)  domFactory  addToSelection(Collection)  handleRequestSecondaryHandles(HandleEvent)  getTools()  removeFigureSelectionListener(FigureSelectionList  ener)  getCompatibleHandles(Handle)  addNotify(DrawingEditor)  copy()  delete()  getHandleDetailLevel()  setHandleDetailLevel(int)  duplicate()  removeFromSelection(Figure)  selectAll()  addToSelection(Figure)  getSelectionCount()  viewToDrawing(Rectangle)  clearSelection()  findFigure(Point)  addFigureSelectionListener  (FigureSelectionListener)  findFigures(Rectangle)  isFigureSelected(Figure)  drawingToView(Point2D$Double)  drawingToView(Rectangle2D$Double)  removeNotify(DrawingEditor)  figureAdded(DrawingEvent)  cut()  paste()  addPropertyChangeListener  (PropertyChangeListener)  areaInvalidated(HandleEvent)  handleRequestRemove(HandleEvent)  findHandle(Point)  toggleSelection(Figure)  getContainer()  areaInvalidated(DrawingEvent)  findFiguresWithin(Rectangle)  getDrawingToViewTransform()  viewToDrawing(Point)  figureRemoved(DrawingEvent)  getDrawing()  setDrawing(Drawing)  drawing  getSelectedFigures()  selectedFigures  getScaleFactor()  setScaleFactor(double)  scaleFactor  getConstrainer()  setConstrainer(Constrainer)  constrainer |
| DefaultDrawingView\_new\_2  [-]  [-] | firePropertyChange(String, double, double)  invalidate()  getParent()  repaint()  repaint(Rectangle)  detailLevel  setFocusable(boolean)  dirtyFigures  rainbow  handlesAreValid  DefaultDrawingView()  invalidateHandles()  getSelectionHandles()  selectionHandles  getSecondaryHandles()  secondaryHandles  fireViewTransformChanged()  validateHandles()  buttonGroup1  initComponents()  setLayout(LayoutManager)  setBackground(Color) |
| DefaultDrawingView\_new\_3  [-]  [-] | drawGrid(Graphics2D)  paintComponent(Graphics)  editor  drawTool(Graphics2D)  drawHandles(Graphics2D) |
| TriangleFigure  [2] | TriangleFigure\_new\_1  [AttributedFigure]  [-] | TriangleFigure(AttributeKeys$Orientation)  TriangleFigure()  TriangleFigure(double, double, double, double)  rectangle  drawStroke(Graphics2D)  clone()  createHandles(int)  findConnector(Point2D$Double,ConnectionFigure)  basicTransform(AffineTransform)  contains(Point2D$Double)  findCompatibleConnector(Connector, boolean)  getBounds()  getStartPoint()  basicSetBounds(Point2D$Double,Point2D$Double)  TriangleFigure(double, double, double,  double,AttributeKeys$Orientation)  drawFill(Graphics2D)  getFigureDrawBounds()  getEndPoint() |
| TriangleFigure\_new\_1  [-]  [-] | getLocation()  getBezierPath()  restoreTo(Object)  getRestoreData() |
| ToggleProjectPropertyAction  [2] | ToggleProjectPropertyAction\_new\_1 [AbstractProjectAction] [-] | projectListener  installProjectListeners(Project)  uninstallProjectListeners(Project)  ToggleProjectPropertyAction(Application,String,  Class,Object,Object)  getCurrentProject() |
| ToggleProjectPropertyAction\_new\_2  [-]  [-] | ToggleProjectPropertyAction(Application,String)  putValue(String,Object)  propertyName  setterName  deselectedPropertyValue  selectedPropertyValue  getterName  getCurrentValue()  updateSelectedState()  actionPerformed(ActionEvent)  parameterClass |
| BezierPath  [2] | BezierPath\_new\_1  [-]  [-] | outlineContains(Point2D$Double, double)  contains(Point2D)  getPointOnPath(double, double)  getBounds2D()  getPathIterator(AffineTransform, double)  getPathIterator(AffineTransform)  contains(Rectangle2D)  getBounds()  getBounds2DDouble()  intersects(double, double, double, double)  contains(double, double)  contains(double, double, double, double)  chop(Point2D$Double)  intersects(Rectangle2D)  generalPath  validatePath()  invalidatePath()  indexOfOutermostNode()  outer  BezierPath()  get(int, int) |
| BezierPath\_new\_1  [-]  [-] | C1\_MASK  C1C2\_MASK  C2\_MASK  add(int,Point2D$Double,Point2D$Double,Point2D$Double)  addPoint(double, double)  add(Point2D$Double)  getCenter()  iterator()  transform(AffineTransform)  set(int, int,Point2D$Double)  set(int,Object)  clone()  joinSegments(Point2D$Double, float)  setTo()  remove(int)  toPolygonArray()  add(Object)  size()  add(int,Object)  splitSegment(Point2D$Double, float)  findSegment(Point2D$Double, float)  toGeneralPath()  isClosed()  isClosed  setClosed(boolean)  clear()  quadTo(double, double, double, double)  moveTo(double, double)  lineTo(double, double)  curveTo(double, double, double, double, double,  double)  get(int) |
| ConnectionHandle  [2] | ConnectionHandle\_new\_1  [LocatorHandle]  [-] | createConnection()  fireUndoableEditHappened(UndoableEdit)  getOwner()  getLocationOnDrawing()  draw(Graphics2D)  drawCircle(Graphics2D,Color,Color)  ConnectionHandle(Figure,Locator,  ConnectionFigure) |
| ConnectionHandle\_new\_2 [-] [-] | prototype  findConnectableFigure(Point2D$Double,Drawing)  setConnection(ConnectionFigure)  getConnection()  currentConnection  getStartConnector()  getTargetFigure()  setTargetFigure(Figure)  targetFigure  trackEnd(Point,Point, int)  trackStart(Point, int)  view  trackStep(Point,Point, int)  edit  findConnectionTarget(Point2D$Double,Drawing) |
| JSheet  [3] | JSheet\_new\_1  [-]  [-] | setBounds(int, int, int, int)  isVisible()  addNotify()  requestFocus()  setLocation(int, int)  setVisible(boolean)  showInputSheet(Component,Object,SheetListener)  showInputSheet(Component,Object,  int,SheetListener)  showSaveSheet(JFileChooser,Component,SheetList  ener)  showOpenSheet(JFileChooser,Component,SheetLis  tener)  showInputSheet(Component,Object,Object,SheetLi  stener)  showSheet(JOptionPane,Component,SheetListen  er)  fireOptionSelected(JOptionPane)  showOptionSheet(Component,Object, int,  int,Icon,Object[],Object,SheetListener)  showInputSheet(Component,Object,  int,Icon,Object[],Object,SheetListener)  styleFromMessageType(int)  toFront()  showSheet(JFileChooser,Component,String,SheetLi  stener)  addWindowListener(WindowListener)  pack()  firePropertyChange(String, boolean, boolean)  JSheet(Frame)  JSheet(Dialog)  isAnimated  setAnimated(boolean)  isAnimated()  addSheetListener(SheetListener)  fireOptionSelected(JOptionPane, int,Object,Object)  fireOptionSelected(JFileChooser, int)  removeSheetListener(SheetListener)  listenerList  setResizable(boolean)  createSheet(JOptionPane,Component, int)  addComponentListener(ComponentListener)  getWindowForComponent(Component) |
| JSheet\_new\_2  [-]  [-] | fileOpened(Project,File,Object)  showMessageSheet(Component,Object)  showMessageSheet(Component,Object,  SheetListener)  showMessageSheet(Component,Object,  int,SheetListener)  showMessageSheet(Component,Object,  int,Icon,SheetListener)  showMessageSheet(Component,Object, int) |
| JSheet\_new\_3  [-]  [-] | showConfirmSheet(Component,Object,  int,SheetListener)  showConfirmSheet(Component,Object,SheetListen  er)  showConfirmSheet(Component,Object, int,  int,SheetListener)  showConfirmSheet(Component,Object, int,  int,Icon,SheetListener)  dispose()  getContentPane()  hide0()  hide()  getBounds()  getParent()  show0()  show()  setBounds(Rectangle)  setUndecorated(boolean)  getRootPane()  isShowAsSheet()  getWidth()  setLocation(Point)  setTitle(String)  getHeight()  getOwner()  oldLocation  shiftBackLocation  isInstalled  oldFocusOwner  ownerMovementHandler  init()  uninstallSheet()  installSheet() |
| UndoRedoManager  [2] | UndoRedoManager\_new\_1  [-]  [-] | editToBeUndone()  undoOrRedo()  redo()  undoOrRedoInProgress  undo()  addEdit(UndoableEdit) |
| UndoRedoManager\_new\_2  [-]  [-] | DISCARD\_ALL\_EDITS  static {}  DEBUG  discardAllEdits()  getRedoPresentationName()  getUndoAction()  undoAction  getRedoAction()  redoAction  updateActions()  getLabels()  labels  setLocale(Locale)  canUndo()  getUndoPresentationName()  canRedo()  setHasSignificantEdits(boolean)  hasSignificantEdits  hasSignificantEdits()  UndoRedoManager()  firePropertyChange(String, boolean, boolean)  addPropertyChangeListener(PropertyChangeListe  ner)  propertySupport  firePropertyChange(String,Object,Object)  addPropertyChangeListener(String,PropertyChang  eListener)  removePropertyChangeListener(String,PropertyCh  angeListener)  firePropertyChange(String, int, int)  removePropertyChangeListener(PropertyChangeLi  stener) |
| MoveHandle  [2] | MoveHandle\_new\_1  [LocatorHandle]  [-] | north(Figure)  east(Figure)  south(Figure)  geometry  west(Figure)  trackEnd(Point,Point, int)  fireUndoableEditHappened(UndoableEdit)  getOwner()  drawRectangle(Graphics2D,Color,Color)  MoveHandle(Figure,Locator)  draw(Graphics2D)  view  trackStart(Point, int)  trackStep(Point,Point, int)  oldPoint |
| MoveHandle\_new\_2  [-]  [-] | southWest(Figure)  addMoveHandles(Figure,Collection)  southEast(Figure)  northEast(Figure)  northWest(Figure) |
| ToolBarButtonFactory  [2] | ToolBarButtonFactory\_new\_1  [-]  [-] | createZoomButton(DrawingEditor)  addZoomButtonsTo(JToolBar,DrawingEditor)  createZoomButton(DrawingView)  createToggleGridButton(DrawingView)  createToggleGridButton(DrawingEditor)  ToolBarButtonFactory()  addAlignmentButtonsTo(JToolBar,DrawingEditor)  addColorButtonTo(JToolBar,DrawingEditor,  AttributeKey,Map, int,String,ResourceBundleUtil)  addFontButtonsTo(JToolBar,DrawingEditor)  addColorButtonsTo(JToolBar,DrawingEditor)  DEFAULT\_COLORS  static {}  addAttributesButtonsTo(JToolBar,DrawingEditor)  addStrokeDashesButtonTo(JToolBar,DrawingEdito  r)  addStrokeWidthButtonTo(JToolBar,DrawingEdit-  or)  addStrokePlacementButtonTo(JToolBar,DrawingEd  itor)  addStrokeButtonsTo(JToolBar,DrawingEditor)  addStrokeTypeButtonTo(JToolBar,DrawingEditor)  addStrokeDecorationButtonTo(JToolBar,DrawingE  ditor) |
| ToolBarButtonFactory\_new\_2  [-]  [-] | addToolTo(JToolBar,DrawingEditor,Tool,String,Res  ourceBundleUtil)  addSelectionToolTo(JToolBar,DrawingEditor)  createDrawingActions(DrawingEditor)  createSelectionActions(DrawingEditor)  addSelectionToolTo(JToolBar,DrawingEditor,Collec  tion,Collection) |
| FigureEvent  [2] | FigureEvent\_new\_1  [-]  [-] | getNewValue()  newValue  getOldValue()  oldValue  getAttribute()  attribute  FigureEvent(Figure,AttributeKey,Object,Object) |
| FigureEvent\_new\_2  [-]  [-] | getInvalidatedArea()  invalidatedArea  FigureEvent(Figure,Rectangle2D$Double)  getSource()  getFigure() |