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'''
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#import sys
#from PyQt4.QtCore import pyqtSignature, QString, Qt, QVariant, SIGNAL, SLOT
#from PyQt4.QtGui import *
from PyQt4 import QtGui, QtCore
from structureCreateUI import Ui_MainWindow as Dlg
#from databaseUtilities import *

class MainWindow(QtGui.QMainWindow, Dlg):
    def __init__(self,basis,parent = None):

        QtGui.QMainWindow.__init__(self,parent)
        self.setupUi(self)

        self.basis = basis

        self.basis_orig = basis.copy()

        self.connect(self.CancelButton, QtCore.SIGNAL("clicked(bool)"),self.cancelAction)
        self.connect(self.OkButton , QtCore.SIGNAL("clicked(bool)"),self.exitAction)

        self.connect(self.doubleSpinBox_alat , QtCore.SIGNAL("valueChanged(double)"),self.
        signalAlat)
        self.connect(self.doubleSpinBox_alpha, QtCore.SIGNAL("valueChanged(double)"),self.
        signalAlpha)

        self.connect(self.baravaistype, QtCore.SIGNAL("currentIndexChanged(const QString&)"),
        self.setButtons)

    def cancelAction(self, test):
        self.basis = self.basis_orig
        print "length: ",len(self.basis_orig),len(self.basis)
        QtGui.qApp.quit()

    def signalAlat(self, alat):
        type = self.baravaistype.currentText()
        if type == 'cubic':
            self.doubleSpinBox_blat.setValue(alat)
            self.doubleSpinBox_clat.setValue(alat)
        if type == 'tetragonal':
            self.doubleSpinBox_blat.setValue(alat)
        if type == 'rhombohedral':
            self.doubleSpinBox_blat.setValue(alat)
            self.doubleSpinBox_clat.setValue(alat)
        if type == 'hexagonal':
            self.doubleSpinBox_blat.setValue(alat)

    def signalAlpha(self, alpha):
        type = self.baravaistype.currentText()
        if type == 'rhombohedral':
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            self.doubleSpinBox_beta.setValue(alpha)
            self.doubleSpinBox_gamma.setValue(alpha)

    def setButtons(self, test):
        type = self.baravaistype.currentText()
        if type == 'cubic':
            print "bravais type changed to cubic"
            self.doubleSpinBox_alat.setEnabled(True)
            self.doubleSpinBox_blat.setEnabled(False)
            self.doubleSpinBox_clat.setEnabled(False)
            self.doubleSpinBox_alpha.setEnabled(False)
            self.doubleSpinBox_beta.setEnabled(False)
            self.doubleSpinBox_gamma.setEnabled(False)

        elif type == 'triclinic':
            print "bravais type changed to triclinic"
            self.doubleSpinBox_alat.setEnabled(True)
            self.doubleSpinBox_blat.setEnabled(True)
            self.doubleSpinBox_clat.setEnabled(True)
            self.doubleSpinBox_alpha.setEnabled(True)
            self.doubleSpinBox_beta.setEnabled(True)
            self.doubleSpinBox_gamma.setEnabled(True)
        elif type == 'monoclinic':
            print "bravais type changed to monoclinic"
            self.doubleSpinBox_alat.setEnabled(True)
            self.doubleSpinBox_blat.setEnabled(True)
            self.doubleSpinBox_clat.setEnabled(True)
            self.doubleSpinBox_alpha.setEnabled(True)
            self.doubleSpinBox_beta.setEnabled(False)
            self.doubleSpinBox_gamma.setEnabled(False)
        elif type == 'orthorombic':
            print "bravais type changed to orthorombic"
            self.doubleSpinBox_alat.setEnabled(True)
            self.doubleSpinBox_blat.setEnabled(True)
            self.doubleSpinBox_clat.setEnabled(True)
            self.doubleSpinBox_alpha.setEnabled(False)
            self.doubleSpinBox_beta.setEnabled(False)
            self.doubleSpinBox_gamma.setEnabled(False)

        elif type == 'tetragonal':
            print "bravais type changed to tetragonal"
            self.doubleSpinBox_alat.setEnabled(True)
            self.doubleSpinBox_blat.setEnabled(False)
            self.doubleSpinBox_clat.setEnabled(True)
            self.doubleSpinBox_alpha.setEnabled(False)
            self.doubleSpinBox_beta.setEnabled(False)
            self.doubleSpinBox_gamma.setEnabled(False)

        elif type == 'rhombohedral':
            print "bravais type changed to rhombohedral"
            self.doubleSpinBox_alat.setEnabled(True)
            self.doubleSpinBox_blat.setEnabled(False)
            self.doubleSpinBox_clat.setEnabled(False)
            self.doubleSpinBox_alpha.setEnabled(True)
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            self.doubleSpinBox_beta.setEnabled(False)
            self.doubleSpinBox_gamma.setEnabled(False)
        elif type == 'hexagonal':
            print "bravais type changed to hexagonal"
            self.doubleSpinBox_alat.setEnabled(True)
            self.doubleSpinBox_blat.setEnabled(False)
            self.doubleSpinBox_clat.setEnabled(True)
            self.doubleSpinBox_alpha.setEnabled(False)
            self.doubleSpinBox_beta.setEnabled(False)
            self.doubleSpinBox_gamma.setEnabled(False)
            self.doubleSpinBox_alpha.setValue(60)


    def exitAction(self, test):
        print self.doubleSpinBox_alat.value(),self.doubleSpinBox_blat.value(),self.
        doubleSpinBox_clat.value()
        type =self.baravaistype.currentText()
        if type == 'fcc':
            print "fcc cell "
        if type == 'bcc':
            print "bcc cell "
        if type == 'hcp':
            print "hcp cell "
        if type == 'sc':
            print "simple cubic cell "
        self.close()
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