

# **Actividad 04 (UI: User Interface)**

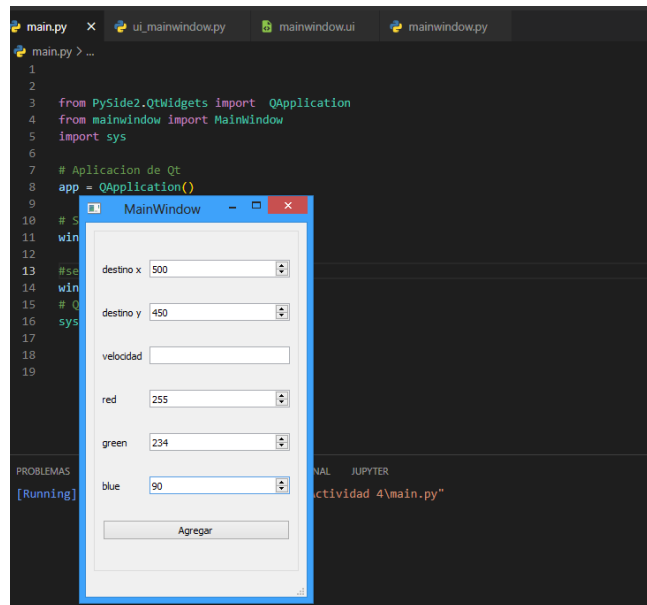
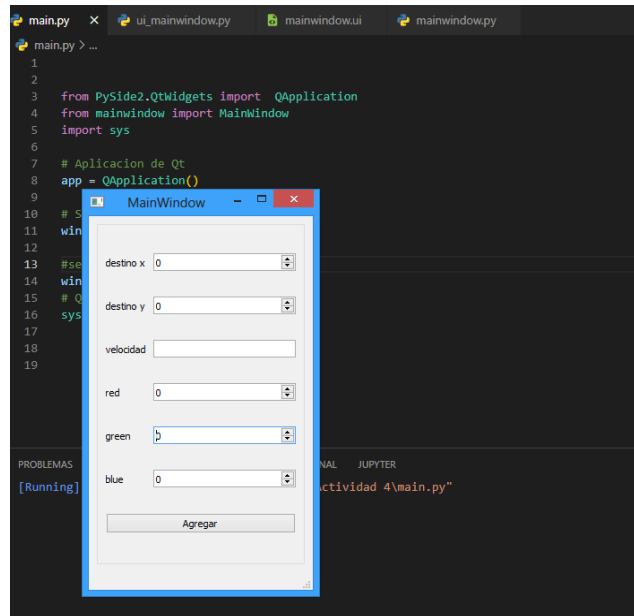
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**Seminario de solución de problemas de algoritmia**

# Lineamientos de evaluación

- El reporte está en formato Google Docs o PDF.
- El reporte sigue las pautas del [Formato de Actividades](#) .
- El reporte tiene desarrollada todas las pautas del [Formato de Actividades](#).
- Se muestra la captura de pantalla de la interfaz de usuario corriendo desde Python con los *widgets* para representar la información de una partícula (como se definió en el punto 1 de las instrucciones).

# Desarrollo



# Conclusiones

## Problemas con los que te enfrentaste

Una de las complicaciones fue la conversión de ui a py, por otra parte la creación de la interfaz se me escaparon varios detalles que al final resolví

## Que aprendiste

Aprendí a realizar interfaces gráficas y convertirlas de ui a py

## Que no entendiste desde el inicio y como hiciste para entenderlo

La conversión de ui a py, lo que hice para resolver fue ver los videos de apoyo que se sugirió en la actividad

# Referencias

## Primera referencia

Url: <https://www.youtube.com/watch?v=T0qJdF1fMqo>

Título: Instalación de Python en Windows 10

Autor: MICHEL DAVALOS BOITES

## Segunda referencia

Url: <https://www.youtube.com/watch?v=zyULBiwALxE>

Título: Importar script de Python en Visual Studio Code

Autor: MICHEL DAVALOS BOITES

# Código

## main.py

```
from PySide2.QtWidgets import QApplication
from mainwindow import MainWindow
import sys

# Aplicacion de Qt
app = QApplication()

# Se crea window
window = MainWindow()

#se hace visible window
window.show()
# Qt loop
sys.exit(app.exec_())
```

## mainwindow.py

```
from PySide2.QtWidgets import QMainWindow
from PySide2.QtCore import Slot
from ui_mainwindow import Ui_MainWindow

class MainWindow(QMainWindow):
    def __init__(self):
        super(MainWindow, self).__init__()
        ui = Ui_MainWindow()
        ui.setupUi(self)
        ui.pushButton.clicked.connect(self.click_agregar)

    @Slot()
    def click_agregar(self):
        print('click')
```

## ui\_mainwindow.py

```
from PySide2.QtCore import *
from PySide2.QtGui import *
from PySide2.QtWidgets import *

class Ui_MainWindow(object):
    def setupUi(self, MainWindow):
        if not MainWindow.setObjectName():
            MainWindow.setObjectName(u"MainWindow")
```

```

MainWindow.resize(250, 423)
MainWindow.setWindowOpacity(500.0000000000000000)
self.centralwidget = QWidget(MainWindow)
self.centralwidget.setObjectName(u"centralwidget")
self.gridLayout_2 = QGridLayout(self.centralwidget)
self.gridLayout_2.setObjectName(u"gridLayout_2")
self.groupBox = QGroupBox(self.centralwidget)
self.groupBox.setObjectName(u"groupBox")
self.gridLayout = QGridLayout(self.groupBox)
self.gridLayout.setObjectName(u"gridLayout")
self.spinBox_4 = QSpinBox(self.groupBox)
self.spinBox_4.setObjectName(u"spinBox_4")
self.spinBox_4.setMaximum(255)

self.gridLayout.addWidget(self.spinBox_4, 4, 1, 1, 1)

self.label_2 = QLabel(self.groupBox)
self.label_2.setObjectName(u"label_2")

self.gridLayout.addWidget(self.label_2, 1, 0, 1, 1)

self.spinBox_5 = QSpinBox(self.groupBox)
self.spinBox_5.setObjectName(u"spinBox_5")
self.spinBox_5.setMaximum(255)

self.gridLayout.addWidget(self.spinBox_5, 5, 1, 1, 1)

self.label = QLabel(self.groupBox)
self.label.setObjectName(u"label")

self.gridLayout.addWidget(self.label, 0, 0, 1, 1)

self.label_5 = QLabel(self.groupBox)
self.label_5.setObjectName(u"label_5")

self.gridLayout.addWidget(self.label_5, 4, 0, 1, 1)

self.spinBox = QSpinBox(self.groupBox)
self.spinBox.setObjectName(u"spinBox")
self.spinBox.setMaximum(500)

self.gridLayout.addWidget(self.spinBox, 0, 1, 1, 1)

self.label_3 = QLabel(self.groupBox)
self.label_3.setObjectName(u"label_3")

self.gridLayout.addWidget(self.label_3, 2, 0, 1, 1)

self.label_4 = QLabel(self.groupBox)
self.label_4.setObjectName(u"label_4")

self.gridLayout.addWidget(self.label_4, 3, 0, 1, 1)

```

```

self.spinBox_3 = QSpinBox(self.groupBox)
self.spinBox_3.setObjectName(u"spinBox_3")
self.spinBox_3.setMaximum(255)

self.gridLayout.addWidget(self.spinBox_3, 3, 1, 1, 1)

self.label_6 = QLabel(self.groupBox)
self.label_6.setObjectName(u"label_6")

self.gridLayout.addWidget(self.label_6, 5, 0, 1, 1)

self.lineEdit = QLineEdit(self.groupBox)
self.lineEdit.setObjectName(u"lineEdit")

self.gridLayout.addWidget(self.lineEdit, 2, 1, 1, 1)

self.spinBox_2 = QSpinBox(self.groupBox)
self.spinBox_2.setObjectName(u"spinBox_2")
self.spinBox_2.setMaximum(500)

self.gridLayout.addWidget(self.spinBox_2, 1, 1, 1, 1)

self.pushButton = QPushButton(self.groupBox)
self.pushButton.setObjectName(u"pushButton")

self.gridLayout.addWidget(self.pushButton, 6, 0, 1, 2)

self.gridLayout_2.addWidget(self.groupBox, 0, 0, 1, 1)

MainWindow.setCentralWidget(self.centralwidget)
self.menubar = QMenuBar(MainWindow)
self.menubar.setObjectName(u"menubar")
self.menubar.setGeometry(QRect(0, 0, 250, 21))
MainWindow.setMenuBar(self.menubar)
self.statusbar = QStatusBar(MainWindow)
self.statusbar.setObjectName(u"statusbar")
MainWindow.setStatusBar(self.statusbar)

self.retranslateUi(MainWindow)

QMetaObject.connectSlotsByName(MainWindow)
# setupUi

def retranslateUi(self, MainWindow):
    MainWindow.setWindowTitle(QCoreApplication.translate("MainWindow",
u"MainWindow", None))
    self.groupBox.setTitle("")
    self.label_2.setText(QCoreApplication.translate("MainWindow",
u"destino y", None))

```

```

        self.label.setText(QCoreApplication.translate("MainWindow",
u"destino x ", None))
        self.label_5.setText(QCoreApplication.translate("MainWindow",
u"green", None))
        self.label_3.setText(QCoreApplication.translate("MainWindow",
u"velocidad", None))
        self.label_4.setText(QCoreApplication.translate("MainWindow",
u"red", None))
        self.label_6.setText(QCoreApplication.translate("MainWindow",
u"blue", None))
        self.pushButton.setText(QCoreApplication.translate("MainWindow",
u"Agregar", None))
        # retranslateUi

```

### mainwindow.ui

```

<?xml version="1.0" encoding="UTF-8"?>
<ui version="4.0">
  <class>MainWindow</class>
  <widget class="QMainWindow" name="MainWindow">
    <property name="geometry">
      <rect>
        <x>0</x>
        <y>0</y>
        <width>250</width>
        <height>423</height>
      </rect>
    </property>
    <property name="windowTitle">
      <string>MainWindow</string>
    </property>
    <property name="windowOpacity">
      <double>500.00000000000000</double>
    </property>
    <widget class="QWidget" name="centralwidget">
      <layout class="QGridLayout" name="gridLayout_2">
        <item row="0" column="0">
          <widget class="QGroupBox" name="groupBox">
            <property name="title">
              <string/>
            </property>
            <layout class="QGridLayout" name="gridLayout">
              <item row="4" column="1">
                <widget class="QSpinBox" name="spinBox_4">
                  <property name="maximum">
                    <number>255</number>
                  </property>
                </widget>
              </item>
              <item row="1" column="0">
                <widget class="QLabel" name="label_2">
                  <property name="text">
                    <string>destino y</string>

```



```

        </property>
    </widget>
</item>
<item row="5" column="1">
    <widget class="QSpinBox" name="spinBox_5">
        <property name="maximum">
            <number>255</number>
        </property>
    </widget>
</item>
<item row="0" column="0">
    <widget class="QLabel" name="label">
        <property name="text">
            <string>destino x </string>
        </property>
    </widget>
</item>
<item row="4" column="0">
    <widget class="QLabel" name="label_5">
        <property name="text">
            <string>green</string>
        </property>
    </widget>
</item>
<item row="0" column="1">
    <widget class="QSpinBox" name="spinBox">
        <property name="maximum">
            <number>500</number>
        </property>
    </widget>
</item>
<item row="2" column="0">
    <widget class="QLabel" name="label_3">
        <property name="text">
            <string>velocidad</string>
        </property>
    </widget>
</item>
<item row="3" column="0">
    <widget class="QLabel" name="label_4">
        <property name="text">
            <string>red</string>
        </property>
    </widget>
</item>
<item row="3" column="1">
    <widget class="QSpinBox" name="spinBox_3">
        <property name="maximum">
            <number>255</number>
        </property>
    </widget>
</item>
<item row="5" column="0">
    <widget class="QLabel" name="label_6">
        <property name="text">

```

```

        <string>blue</string>
    </property>
</widget>
</item>
<item row="2" column="1">
    <widget class="QLineEdit" name="lineEdit"/>
</item>
<item row="1" column="1">
    <widget class="QSpinBox" name="spinBox_2">
        <property name="maximum">
            <number>500</number>
        </property>
    </widget>
</item>
<item row="6" column="0" colspan="2">
    <widget class="QPushButton" name="pushButton">
        <property name="text">
            <string>Agregar</string>
        </property>
    </widget>
</item>
</layout>
</widget>
</item>
</layout>
</widget>
<widget class="QMenuBar" name="menubar">
    <property name="geometry">
        <rect>
            <x>0</x>
            <y>0</y>
            <width>250</width>
            <height>21</height>
        </rect>
    </property>
</widget>
<widget class="QStatusBar" name="statusbar"/>
</widget>
<resources/>
<connections/>
</ui>

```