

Stephanie Camacho

## 4/28/19 Project – Weight Converter

### 1. Analyze the problem:

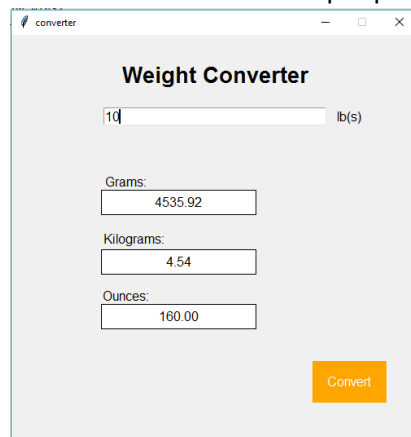
Create a program to convert pound weight measurements into other units

### 2. Determine Specifications:

User will need to input the measurement of weight in pounds and the program will convert and display the input of pounds into grams, kilograms, and ounces.

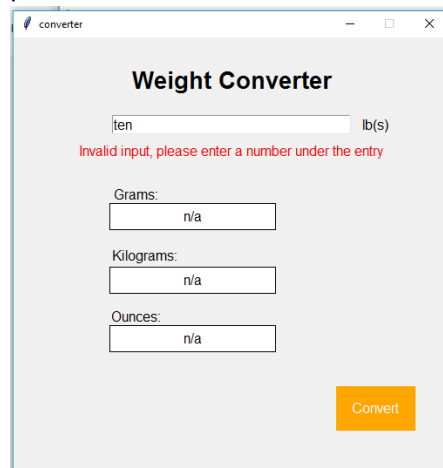
### 3. Create a design:

- Get user input of weight in pounds in entry textbox
- Display the converted calculations for weights entered in numbers when a button named "Convert" is clicked
- Calculate the total grams per pound (pound \* 453.592)
- Calculate the total kilograms per pound (pound \* 0.453592)
- Calculate the total ounces per pound (pound \* 16)



The screenshot shows a window titled "converter" with a "Weight Converter" header. Below the header is an input field containing "10" with a unit selector set to "lb(s)". Underneath are three output fields: "Grams:" with the value "4535.92", "Kilograms:" with the value "4.54", and "Ounces:" with the value "160.00". An orange "Convert" button is located at the bottom right.

- If weight entered is not a number display an error message that reads "Invalid input, please enter a number under the entry".



The screenshot shows the same "Weight Converter" window, but the input field now contains the text "ten". A red error message, "Invalid input, please enter a number under the entry", is displayed below the input field. The output fields for Grams, Kilograms, and Ounces now all display "n/a". The orange "Convert" button remains at the bottom right.

- Create a loop to allow the user to convert weight in pounds a number of infinite times

4. **Implement the Design:** Translate the design into computer language and build code.

```
from graphics import *

def convert():

    win = GraphWin("converter",500,500)

    modTitle = Text(Point(250,50),"Weight Converter")

    modTitle.setFace("arial")

    modTitle.setSize(20)

    modTitle.setStyle("bold")

    modTitle.draw(win)

    Text(Point(415,100),"lb(s)").draw(win)

    linput = Entry(Point(250,100),30)

    linput.setFill("white")

    linput.setText("0.0")

    linput.draw(win)


    Button = Rectangle(Point(370,400),Point(460,450))

    Button.setFill("orange")

    Button.setOutline("orange")

    Button.draw(win)

    buttonLabel = Text(Point(415,425),"Convert")

    buttonLabel.setTextColor("white")

    buttonLabel.draw(win)

    Text(Point(140,180),"Grams:").draw(win)

    gBox = Rectangle(Point(110,190),Point(300,220))

    gBox.setFill("White")

    gBox.draw(win)

    goutput = Text(Point(205,205),"0.0").draw(win)

    Text(Point(150,250),"Kilograms:").draw(win)

    kBox = Rectangle(Point(110,263),Point(300,293))

    kBox.setFill("White")
```

```

kBox.draw(win)

koutput = Text(Point(205,278),"0.0").draw(win)
Text(Point(140,320),"Ounces:").draw(win)

oBox = Rectangle(Point(110,330),Point(300,360))
oBox.setFill("White")

oBox.draw(win)

ooutput = Text(Point(205,345),"0.0").draw(win)

error = Text(Point(250,130),"")

i = 0

while i <=10:

    win.getMouse()

    try:

        int(lbinput.getText())

    except ValueError:

        error.setText("Invalid input, please enter a number under the entry")
        error.setTextColor("red")

        error.draw(win)

        goutput.setText("n/a")
        koutput.setText("n/a")
        ooutput.setText("n/a")

        continue

    else:

        lb = int(lbinput.getText())

        g = lb * 453.592

        goutput.setText("%0.2f" % g)

        kg = lb * 0.453592

        koutput.setText("%0.2f" % kg)

```

```
oz = lb * 16.0  
  
ooutput.setText("%0.2f" % oz)  
  
error.setText(" ")
```

```
convert()
```

**5. Test/Debug the Program:**

Program was tested with numerous different inputs to ensure it works as expected. Any errors identified were corrected and retested.

**6. Maintain the Program:**

I will continue developing the program as it may evolve with time.