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

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

    lbinput.setFill("white")

    lbinput.setText("0.0")

    lbinput.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.