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Project – Weight Converter

1. **Analyze the problem:**

**C**reate a program to convert pound weight measurements into other units

1. **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.

1. **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

1. **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()

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

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

1. **Maintain the Program:**

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