GUI Assignment – Bhanu Kureti -A20432559

Source Code:

*"""  
ITMD 513 : Assignment-Polymorphism - Bhanu kureti  
Summary : This program will create GUI which has different coins and buttons to calculate the total value. It also  
contains input validations from the user  
"""*from tkinter import \*  
import tkinter.messagebox  
  
r = Tk()  
r.title("Currency Counter")  
  
heading = Label(r, text="Please enter the number of each coin type and enter Compute:").grid(row=0, column=1)  
  
dollars = Label(r, text="Dollars:").grid(row=1, column=1)  
dollars\_1 = Entry(r)  
dollars\_1.grid(row=1, column=2)  
  
dollars\_coin = Label(r, text="Dollar Value:$").grid(row=1, column=4)  
dollars\_coin1 = Label(r, text="0.00", width=5)  
dollars\_coin1.grid(row=1, column=5)  
  
half\_dollars = Label(r, text="Half Dollar:").grid(row=2, column=1)  
half\_dollars1 = Entry(r)  
half\_dollars1.grid(row=2, column=2)  
  
halfdollars\_coin = Label(r, text="Half Dollar Value:$").grid(row=2, column=4)  
halfdollars\_coin1 = Label(r, text="0.00", width=5)  
halfdollars\_coin1.grid(row=2, column=5)  
  
quarters = Label(r, text="Quarters:").grid(row=3, column=1)  
quarters\_1 = Entry(r)  
quarters\_1.grid(row=3, column=2)  
  
quarters\_coin = Label(r, text="Quarter Value:$").grid(row=3, column=4)  
quarters\_coin1 = Label(r, text="0.00", width=5)  
quarters\_coin1.grid(row=3, column=5)  
  
dimes = Label(r, text="Dimes:").grid(row=4, column=1)  
dimes\_1 = Entry(r)  
dimes\_1.grid(row=4, column=2)  
  
dimes\_coin = Label(r, text="Dime Value:$").grid(row=4, column=4)  
dimes\_coin1 = Label(r, text="0.00", width=5)  
dimes\_coin1.grid(row=4, column=5)  
  
nickels = Label(r, text="Nickels:").grid(row=5, column=1)  
nickels\_1 = Entry(r)  
nickels\_1.grid(row=5, column=2)  
  
nickels\_coin = Label(r, text="Nickel Value:$").grid(row=5, column=4)  
nickels\_coin1 = Label(r, text="0.00", width=5)  
nickels\_coin1.grid(row=5, column=5)  
  
pennies = Label(r, text="Pennies:").grid(row=6, column=1)  
pennies\_1 = Entry(r)  
pennies\_1.grid(row=6, column=2)  
  
pennies\_coin = Label(r, text="Penny Value:$").grid(row=6, column=4)  
pennies\_coin1 = Label(r, text="0.00", width=5)  
pennies\_coin1.grid(row=6, column=5)  
  
totalchangeamount = Label(r, text="Total Change Amount:$").grid(row=7, column=4)  
totalchangeamount1 = Label(r, text="0.00", width=5)  
totalchangeamount1.grid(row=7, column=5)  
  
  
def calculateTotal():  
 dollar = (dollars\_1.get())  
 halfdollar = (half\_dollars1.get())  
 quarter = (quarters\_1.get())  
 dime = (dimes\_1.get())  
 nickel = (nickels\_1.get())  
 pennies = (pennies\_1.get())  
 total = 0.00  
  
 if ((  
 dollar.isdigit() and halfdollar.isdigit() and quarter.isdigit() and dime.isdigit() and nickel.isdigit() and  
 pennies.isdigit()) and (dollar != "" and halfdollar != "" and quarter != "" and dime != "" and  
 nickel != "" and pennies != "")):  
  
 if float(dollar) > 0.0:  
 total = total + (float(dollar))  
 a = float(dollar)  
 dollars\_coin1.configure(text=round(a, 2))  
  
 if float(halfdollar) > 0.0:  
 total = total + (float(halfdollar) \* 0.50)  
 b = float(halfdollar) \* 0.50  
 halfdollars\_coin1.configure(text=round(b, 2))  
  
 if float(quarter) > 0.0:  
 total = total + (float(quarter) \* 0.25)  
 c = float(quarter) \* 0.25  
 quarters\_coin1.configure(text=round(c, 2))  
  
 if float(dime) > 0.0:  
 total = total + (float(dime) \* 0.10)  
 d = float(dime) \* 0.10  
 dimes\_coin1.configure(text=round(d, 2))  
  
 if float(nickel) > 0.0:  
 total = total + (float(nickel) \* 0.05)  
 e = float(nickel) \* 0.05  
 nickels\_coin1.configure(text=round(e, 2))  
  
 if float(pennies) > 0.0:  
 total = total + (float(pennies) \* 0.01)  
 f = float(pennies) \* 0.01  
 pennies\_coin1.configure(text=round(f, 2))  
  
 totalchangeamount1.configure(text=round(total, 2))  
 return True  
 else:  
 tkinter.messagebox.showwarning("Invalid Data", "Numbers only allowed and Enter the correct values")  
 dollars\_1.delete(0, END)  
 half\_dollars1.delete(0, END)  
 quarters\_1.delete(0, END)  
 dimes\_1.delete(0, END)  
 nickels\_1.delete(0, END)  
 pennies\_1.delete(0, END)  
 return False  
  
  
btn = Button(r, text="Compute", command=calculateTotal).grid(row=8, column=2)  
  
r.mainloop()

**OUTPUTS:**

1. **When we enter correct values in all fields**

**A screenshot of a cell phone

Description automatically generated**

1. **When we user keep empty values**

**A screenshot of a social media post

Description automatically generated**

1. **When user enter string values in place of digits**

**A screenshot of a social media post

Description automatically generated**

1. **When User enter one empty field**

**A screenshot of a social media post

Description automatically generated**

1. **When user enter correct values**

**A screenshot of a cell phone

Description automatically generated**