

HW-13

Source Code –

```
"""
```

This is creating a GUI having different coins and a button for calculating the total value. It also validates the user input for the correct values.

```
"""
```

```
from tkinter import *  
import tkinter.messagebox
```

```
r = Tk()  
r.title("Change Counter")
```

```
lbl = Label(r, text="Enter the number of each coin type and  
hit, Compute:").grid(row=0, column=1)
```

```
dollars = Label(r, text = "Dollars:").grid(row = 1, column = 1)  
dollars1 = Entry(r)  
dollars1.grid(row = 1, column = 2)
```

```
dollarscon = Label(r, text = "Dollar Value:$").grid(row = 1, column = 4)  
dollarscon1 = Label(r, text="0.00", width=5)  
dollarscon1.grid(row = 1, column = 5)
```

```
halfdollars = Label(r, text = "Half Dollar:").grid(row = 2, column = 1)  
halfdollars1 = Entry(r)  
halfdollars1.grid(row = 2, column = 2)
```

```
halfdollarscon = Label(r, text = "Half Dollar Value:$").grid(row = 2, column = 4)  
halfdollarscon1 = Label(r, text="0.00", width=5)  
halfdollarscon1.grid(row = 2, column = 5)
```

```
quarters = Label(r, text = "Quarters:").grid(row = 3, column = 1)  
quarters1 = Entry(r)  
quarters1.grid(row = 3, column = 2)
```

```
quarterscon = Label(r, text = "Quarter Value:$").grid(row = 3, column = 4)  
quarterscon1 = Label(r, text="0.00", width=5)  
quarterscon1.grid(row = 3, column = 5)
```

```
dimes = Label(r, text = "Dimes:").grid(row = 4, column = 1)
```

```
dimes1 = Entry(r)
dimes1.grid(row = 4,column = 2)
```

```
dimescon = Label(r ,text = "Dime Value:$").grid(row = 4,column = 4)
dimescon1 = Label(r,text="0.00",width=5)
dimescon1.grid(row = 4,column = 5)
```

```
nickels = Label(r ,text = "Nickels:").grid(row = 5,column = 1)
nickels1 = Entry(r)
nickels1.grid(row = 5,column = 2)
```

```
nickelscon = Label(r ,text = "Nickel Value:$").grid(row = 5,column = 4)
nickelscon1 = Label(r,text="0.00",width=5)
nickelscon1.grid(row = 5,column = 5)
```

```
pennies = Label(r ,text = "Pennies:").grid(row = 6,column = 1)
pennies1 = Entry(r)
pennies1.grid(row = 6,column = 2)
```

```
penniescon = Label(r ,text = "Penny Value:$").grid(row = 6,column = 4)
penniescon1 = Label(r,text="0.00",width=5)
penniescon1.grid(row = 6,column = 5)
```

```
totalchangevalue = Label(r ,text = "Total Change Value:$").grid(row = 7,column = 4)
totalchangevalue1 = Label(r,text="0.00",width=5)
totalchangevalue1.grid(row = 7,column = 5)
```

```
def computeTotal():
    dollar = (dollars1.get())
    halfdollar = (halfdollars1.get())
    quarter = (quarters1.get())
    dime = (dimes1.get())
    nickel = (nickels1.get())
    pennies = (pennies1.get())
    total=0.00
```

```
    if((dollar.isdigit() or halfdollar.isdigit() or quarter.isdigit() or dime.isdigit() or
nickel.isdigit() or 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)
    dollarscon1.configure(text= round(a,2))
```

```
if(float(halfdollar)>0.0):
    total = total+(float(halfdollar)*0.50)
    b = float(halfdollar)*0.50
    halfdollarscon1.configure(text= round(b,2))
```

```
if(float(quarter)>0.0):
    total = total+(float(quarter)*0.25)
    c = float(quarter)*0.25
    quarterscon1.configure(text= round(c,2))
```

```
if(float(dime)>0.0):
    total = total+(float(dime)*0.10)
    d = float(dime)*0.10
    dimescon1.configure(text= round(d,2))
```

```
if(float(nickel)>0.0):
    total = total+(float(nickel)*0.05)
    e = float(nickel)*0.05
    nickelscon1.configure(text= round(e,2))
```

```
if(float(pennies)>0.0):
    total = total+(float(pennies)*0.01)
    f = float(pennies)*0.01
    penniescon1.configure(text= round(f,2))
```

```
totalchangevalue1.configure(text=round(total,2))
return True
```

else:

```
tkinter.messagebox.showwarning("Wrong Data","Invalid Data,Numbers are  
only allowed and Enter all the values")
```

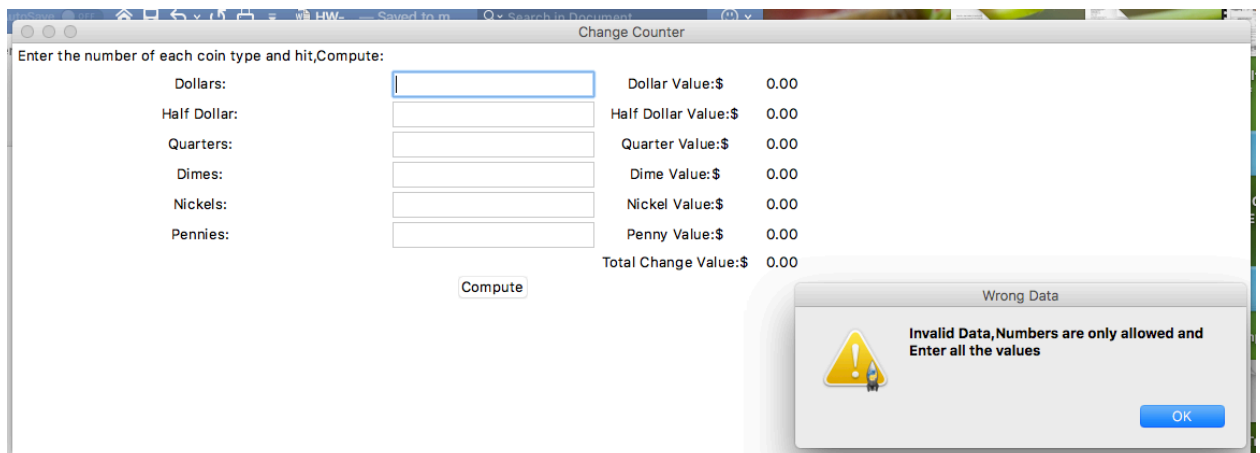
```
dollars1.delete(0,END)  
halfdollars1.delete(0,END)  
quarters1.delete(0,END)  
dimes1.delete(0,END)  
nickels1.delete(0,END)  
pennies1.delete(0,END)  
return False
```

```
btn = Button(r, text="Compute", command=computeTotal).grid(row=8,column=2)
```

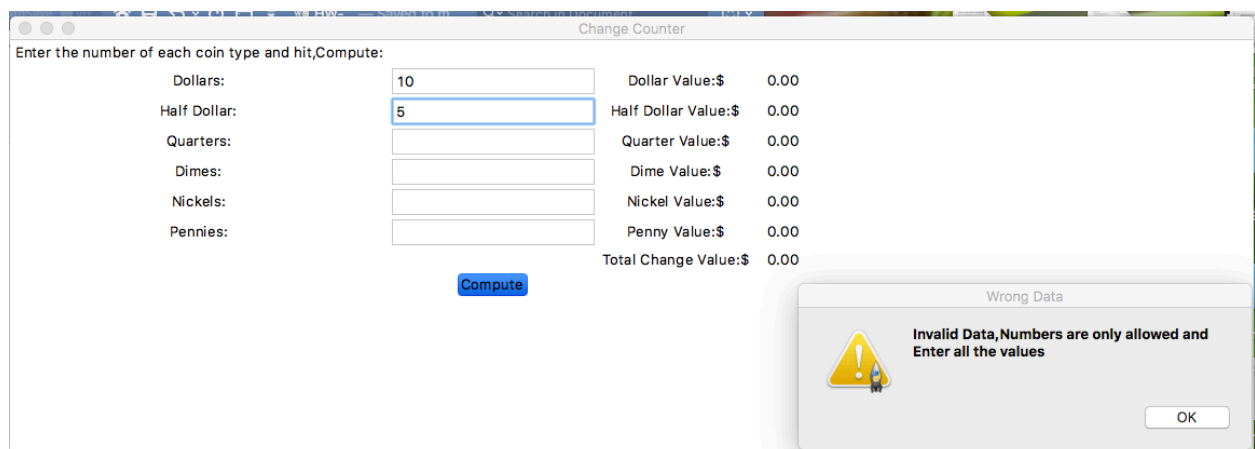
```
r.mainloop()
```

Output –

1. If all the fields are blank



2. If any of the fields are blank



3. If the input is not numeric

The screenshot shows the 'Change Counter' application window. The title bar says 'Change Counter'. Below the title bar, it says 'Enter the number of each coin type and hit,Compute:'. There are six input fields for coin types: Dollars, Half Dollar, Quarters, Dimes, Nickels, and Pennies. The inputs are: Dollars: 'asf', Half Dollar: 'sgfs', Quarters: 'sdg', Dimes: 'asg', Nickels: '2', and Pennies: (empty). To the right of each input field is a label for its value: 'Dollar Value:\$ 0.00', 'Half Dollar Value:\$ 0.00', 'Quarter Value:\$ 0.00', 'Dime Value:\$ 0.00', 'Nickel Value:\$ 0.00', and 'Penny Value:\$ 0.00'. At the bottom right, it says 'Total Change Value:\$ 0.00'. A blue 'Compute' button is at the bottom center. An error dialog box is open on the right, titled 'Wrong Data', with a yellow warning icon and the text 'Invalid Data,Numbers are only allowed and Enter all the values'. An 'OK' button is at the bottom right of the dialog.

| Coin Type | Input | Value (\$) |
|--------------|-------|-------------|
| Dollars | asf | 0.00 |
| Half Dollar | sgfs | 0.00 |
| Quarters | sdg | 0.00 |
| Dimes | asg | 0.00 |
| Nickels | 2 | 0.00 |
| Pennies | | 0.00 |
| Total | | 0.00 |

4. Correct Values

The screenshot shows the 'Change Counter' application window with correct numeric inputs. The title bar says 'Change Counter'. Below the title bar, it says 'Enter the number of each coin type and hit,Compute:'. There are six input fields for coin types: Dollars, Half Dollar, Quarters, Dimes, Nickels, and Pennies. The inputs are: Dollars: '15', Half Dollar: '4', Quarters: '3', Dimes: '9', Nickels: '7', and Pennies: '3'. To the right of each input field is a label for its value: 'Dollar Value:\$ 15.0', 'Half Dollar Value:\$ 2.0', 'Quarter Value:\$ 0.75', 'Dime Value:\$ 0.9', 'Nickel Value:\$ 0.35', and 'Penny Value:\$ 0.03'. At the bottom right, it says 'Total Change Value:\$ 19.03'. A 'Compute' button is at the bottom center.

| Coin Type | Input | Value (\$) |
|--------------|-------|--------------|
| Dollars | 15 | 15.0 |
| Half Dollar | 4 | 2.0 |
| Quarters | 3 | 0.75 |
| Dimes | 9 | 0.9 |
| Nickels | 7 | 0.35 |
| Pennies | 3 | 0.03 |
| Total | | 19.03 |

The screenshot shows the 'Change Counter' application window with correct numeric inputs. The title bar says 'Change Counter'. Below the title bar, it says 'Enter the number of each coin type and hit,Compute:'. There are six input fields for coin types: Dollars, Half Dollar, Quarters, Dimes, Nickels, and Pennies. The inputs are: Dollars: '10', Half Dollar: '15', Quarters: '12', Dimes: '5', Nickels: '4', and Pennies: '8'. To the right of each input field is a label for its value: 'Dollar Value:\$ 10.0', 'Half Dollar Value:\$ 7.5', 'Quarter Value:\$ 3.0', 'Dime Value:\$ 0.5', 'Nickel Value:\$ 0.2', and 'Penny Value:\$ 0.08'. At the bottom right, it says 'Total Change Value:\$ 21.28'. A 'Compute' button is at the bottom center.

| Coin Type | Input | Value (\$) |
|--------------|-------|--------------|
| Dollars | 10 | 10.0 |
| Half Dollar | 15 | 7.5 |
| Quarters | 12 | 3.0 |
| Dimes | 5 | 0.5 |
| Nickels | 4 | 0.2 |
| Pennies | 8 | 0.08 |
| Total | | 21.28 |