Python Project

Introduction to ICT-(CSC101)

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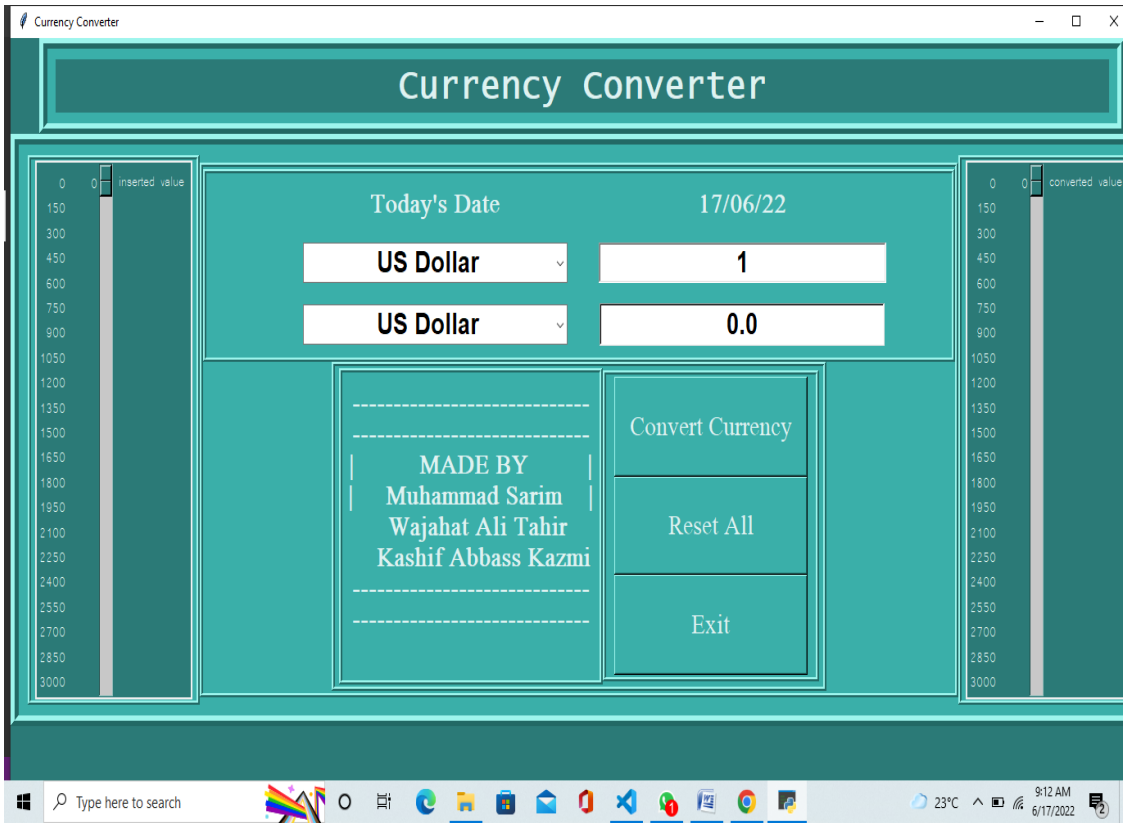
Currency Converter

Introduction:-

This project is website based project and this website helps to currency convert according to the rate of country currency. The currency converter website is helping to convert money like Pakistani Rupee to US dollar or any other currency and vice versa. This website is based on real time project. This currency converter is helpful for those who transfer money from one country to another (one currency to another). People also need to be updated with the latest currency exchange rates in the market. This currency converter is mainly helpful in business, shares and finance.



Objective:-

An easily accessible online currency converter is very useful to show travelers how their own currencies will fare when exchanged with other foreign currencies. Moreover, currency converters help international imports and exports, businesses by helping them determine the selling and buying profits of different products.

Scope:-

Currency Converter is a calculator or software or a tool that converts quantity or a value of one currency into relative quantities of other. Every software may have some cases of bugs, errors, security related problems or system faults. There are many problems or system faults i.e. computer collapse or crushes due to power supply problems will invalidate the efforts of number of students. So, in future we can develop more secure software by using advanced technologies.

Different Modules:-

1) **tkinter**:-

   tkinter is the inbuilt python module that is used to create GUI applications. It is one of the most commonly used modules for creating GUI applications in Python as it is simple and easy to work with.

2) **Time:-**

   This module is used to import the date into our main program.

3) **Requests:-**

   Python requests module has several built-in methods to make Http requests to specified URI using GET, POST, PUT, PATCH or HEAD requests.

4) **Beautiful Soap 4:-**

   Beautiful Soup is a Python library for pulling data out of HTML and XML files.

Algorithms:-

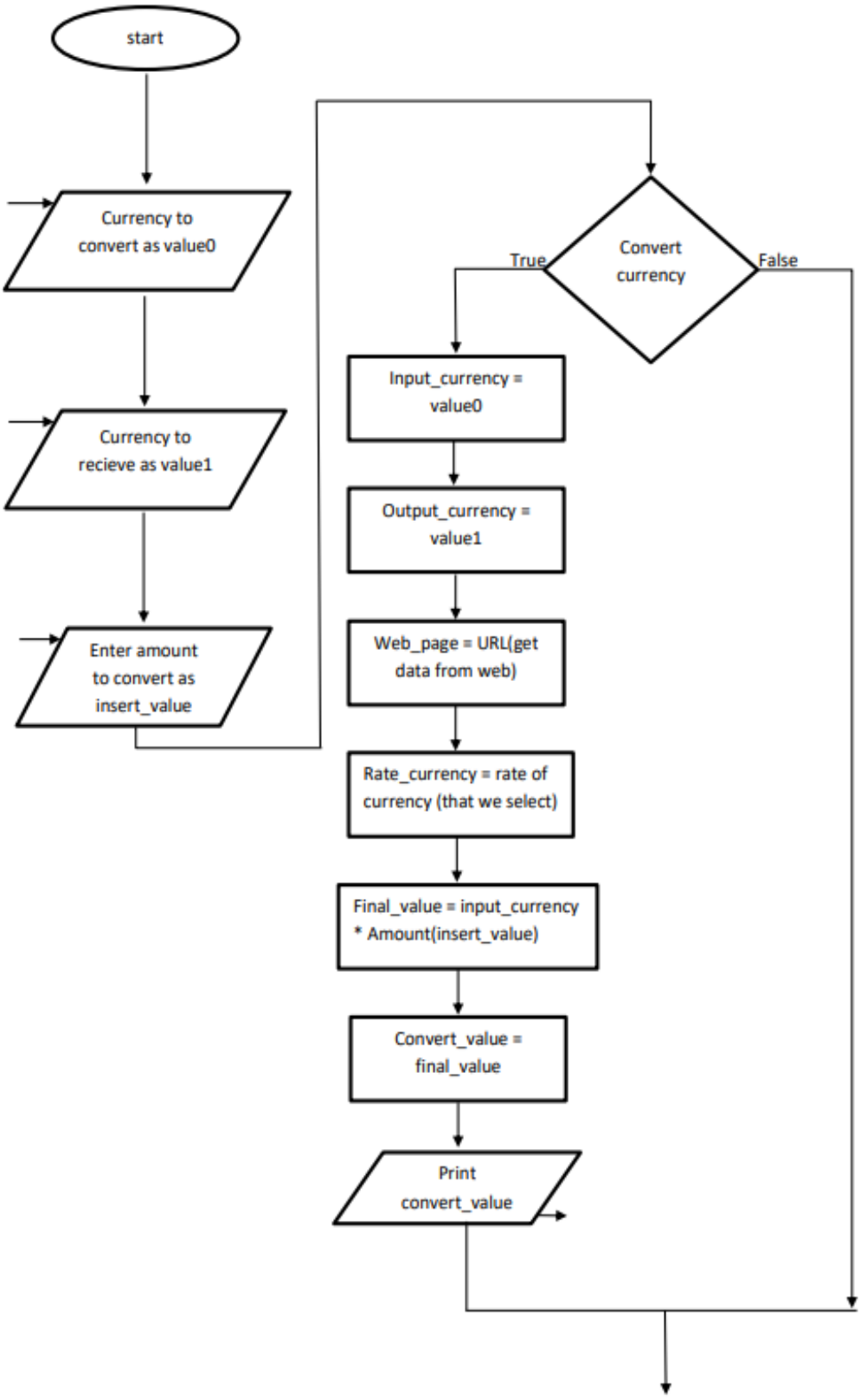
- Step 1:- Start
- Step 2:- Select Currency to be exchanged as INPUT
- Step 3 :- Select Currency in which you want to exchange as INPUT
- Step 4 :- Enter the value of Currency as INPUT
- Step 5 :- Convert the given amount into required currency

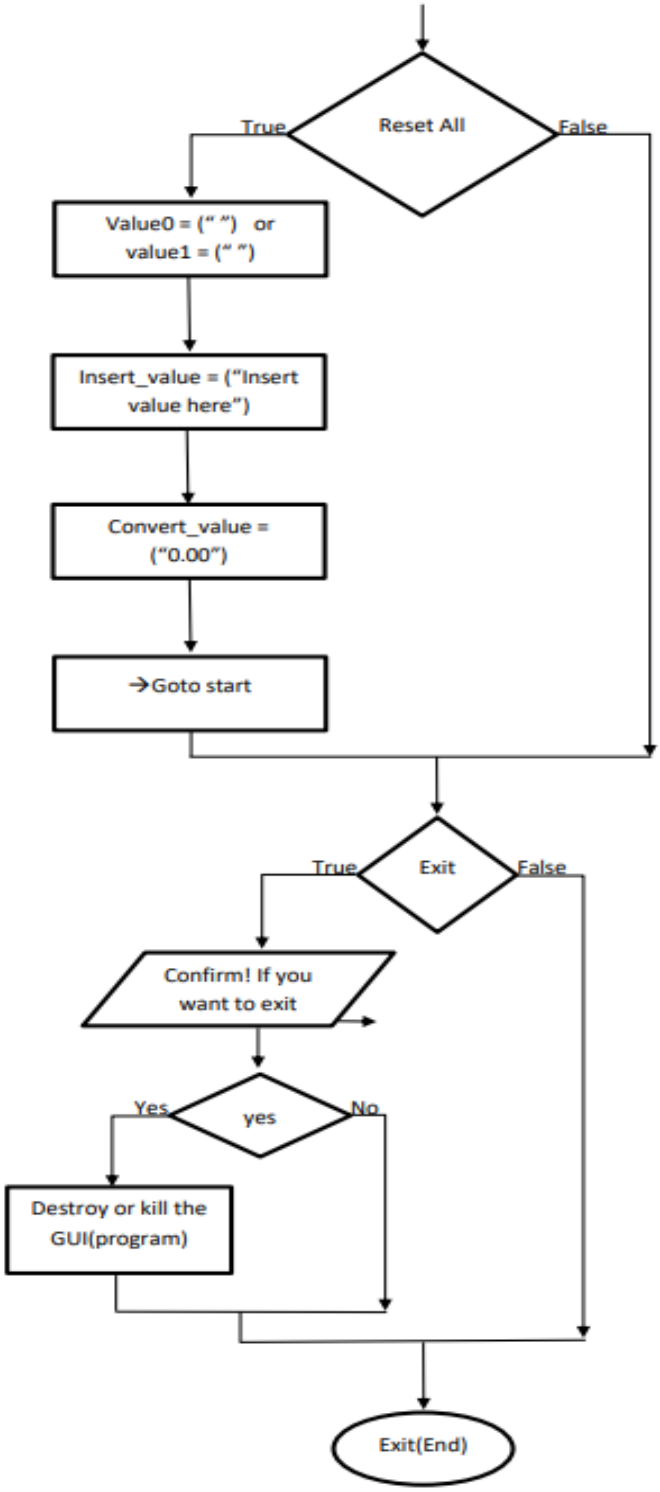
  (Required currency= given Amount * Exchange Rate)
- Step 6:- Show Converted Amount as an Output
- Step 7:- Command of RESET All

  (If YES Go to Step 2, otherwise Step 8)
- Step 8:- Command of Exit

  (If YES, Go to Step 10, otherwise go to Step 9)
- Step 9:- Remains in Windows
- Step 10:- Stop

Flowchart:-


start
Currency to convert as value0
Currency to recieve as value1
Enter amount to convert as insert_value
Convert currency
True
False
Input_currency = value0
Output_currency = value1
Web_page = URL(get data from web)
Rate_currency = rate of currency (that we select)
Final_value = input_currency * Amount(insert_value)
Convert_value = final_value
Print convert_value


Reset All
True
False
Value0 = (" ") or
value1 = (" ")
Insert_value = ("Insert
value here")
Convert_value =
("0.00")
→Goto start
Exit
True
False
Confirm! If you
want to exit
yes
Yes
No
Destroy or kill the
GUI(program)
Exit(End)

Code(text):

```
from tkinter import Tk, StringVar, ttk  #To make application with GUI in Python
from tkinter import *
import tkinter.messagebox          # For Message Box
import time                        # For Date and Time
import requests as req             # To Make Http requests to specified URL using GET
from bs4 import *                  # To Pull Data out of HTML files



countries = ['US Dollar','Indian Rupee','Euro',
             'Pakistani Rupee','Turkish Lira',
             'Kuwaiti Dinar','Saudi Arabian Riyal',
             'Chinese Yuan Renminbi','Canadian Dollar',
             'Australian Dollar']



class currency_converter:

    def __init__(self, BaseAll):

        #main screen
        self.BaseAll = BaseAll
        self.BaseAll.title("Currency Converter")
        self.BaseAll.geometry("1420x710+0+0") #height and width of our main screen
        self.BaseAll.configure(background = '#2B7A77')




        # All variables that used in code
        date_today = StringVar()
        value0 = StringVar()
        value1 = StringVar()
        insert_value = DoubleVar()
        convert_value = DoubleVar()
```

```
scale_insert = DoubleVar()
scale_convert = DoubleVar()
inchinput=DoubleVar()
outputcm=DoubleVar()
output_t=DoubleVar()
insert_value.set("Insert Value here")
date_today.set(time.strftime("%d/%m/%y"))



# Function to exit or end everything
def exit_window():
    exit_window = tkinter.messagebox.askyesno("Exit System", "Confirm if you want to exit")
    if (exit_window > 0):
        BaseAll.destroy()
        return


# Function to reset everything in the screen and set to default
def reset_all():
    value0.set("")
    value1.set("")
    insert_value.set("Insert Value")
    convert_value.set("0.00")
    scale_insert.set(0)
    scale_convert.set(0)


# Function to convert currencies
def value_converted():
    input_currency = value0.get()
    output_currency = value1.get()
    web_page = req.get(set_currency())
    beautiful_soup = BeautifulSoup(web_page.text, 'html.parser')
```

```
        rate_currency = beautiful_soap.find('table', class_ = 'tablesorter ratesTable').find('td', text = lambda x
: x == output_currency).find_next('td').get_text()
        x = float(insert_value.get() * float(rate_currency))
        Final_value = str('%.2f' %(x))
        convert_value.set(Final_value)
        # giving currencies values to scale
        scale_insert.set(insert_value.get())
        scale_convert.set(Final_value)
        return Final_value

    def set_currency():
        input_currency = value0.get()

        if(input_currency == 'US Dollar'):
            Uniform_resource_locator = "https://www.x-rates.com/table/?from=USD&amount=1"
        elif(input_currency == 'Indian Rupee'):
            Uniform_resource_locator = "https://www.x-rates.com/table/?from=INR&amount=1"
        elif(input_currency == 'Euro'):
            Uniform_resource_locator = "https://www.x-rates.com/table/?from=EUR&amount=1"
        elif(input_currency == 'Pakistani Rupee'):
            Uniform_resource_locator = "https://www.x-rates.com/table/?from=PKR&amount=1"
        elif(input_currency == 'Australian Dollar'):
            Uniform_resource_locator = "https://www.x-rates.com/table/?from=AUD&amount=1"
        elif(input_currency == 'Canadian Dollar'):
            Uniform_resource_locator = "https://www.x-rates.com/table/?from=CAD&amount=1"
        elif(input_currency == 'Chinese Yuan Renminbi'):
            Uniform_resource_locator = "https://www.x-rates.com/table/?from=CNY&amount=1"
        elif(input_currency == 'Saudi Arabian Riyal'):
            Uniform_resource_locator = "https://www.x-rates.com/table/?from=SAR&amount=1"
        elif(input_currency == 'Kuwaiti Dinar'):
            Uniform_resource_locator = "https://www.x-rates.com/table/?from=KWD&amount=1"
        elif(input_currency == 'Turkish Lira'):
            Uniform_resource_locator = "https://www.x-rates.com/table/?from=TRY&amount=1"
        return Uniform_resource_locator
```

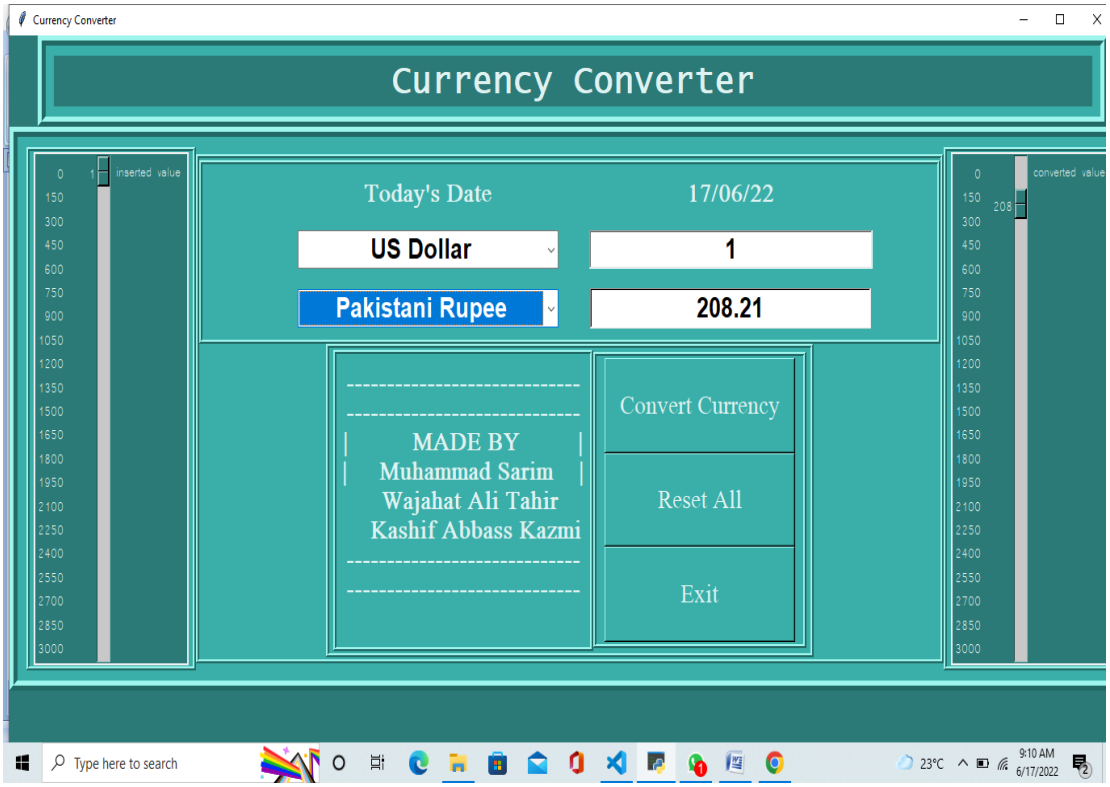
```
        # Frame making in the gui
        Title_frame = Frame(self.BaseAll, bd = 10, width = 1350, height = 100, padx = 10, pady = 10, bg = "#3AAFA9", relief = RIDGE)
        Title_frame.grid(row = 0, column = 0)

        self.Title_lbl = Label(Title_frame, text = "Currency Converter", padx = 17, pady = 4, bd = 1, font = ('Lucida Console', 30, 'bold'), bg = "#2B7A77", fg ="#DEF2F1" , width = 50)
        self.Title_lbl.pack()

        Main_frame = Frame(self.BaseAll, bd = 10 , width = 1350, height = 800, padx = 11, pady = 10, bg = "#3AAFA9", relief = RIDGE)
        Main_frame.grid(row = 1, column = 0)

        Frame_ScaleL = Frame(Main_frame, bd = 4, width = 100, height = 600, padx = 5, pady = 1, bg = "#3AAFA9", relief = RIDGE)
        Frame_ScaleL.grid(row = 0, column = 0)

        Frame_ScaleR = Frame(Main_frame, bd = 4, width = 100, height = 600, padx = 5, pady = 1, bg = "#3AAFA9", relief = RIDGE)
        Frame_ScaleR.grid(row = 0, column = 2)

        Frame_2 = Frame(Main_frame, bd = 4, width = 800, height = 600, padx = 0, pady = 2, bg = "#3AAFA9", relief = RIDGE)
        Frame_2.grid(row = 0, column = 1)

        Frame_2Top = Frame(Frame_2, width = 250, height = 300, bd = 4, padx = 80, pady = 2, bg = "#3AAFA9", relief = RIDGE)
        Frame_2Top.grid(row = 0, column = 0)

        Frame_2Buttom = Frame(Frame_2, width = 800, height = 300, bd = 4, padx = 5, pady = 2, bg = "#3AAFA9", relief = RIDGE)
        Frame_2Buttom.grid(row = 1, column = 0)
```

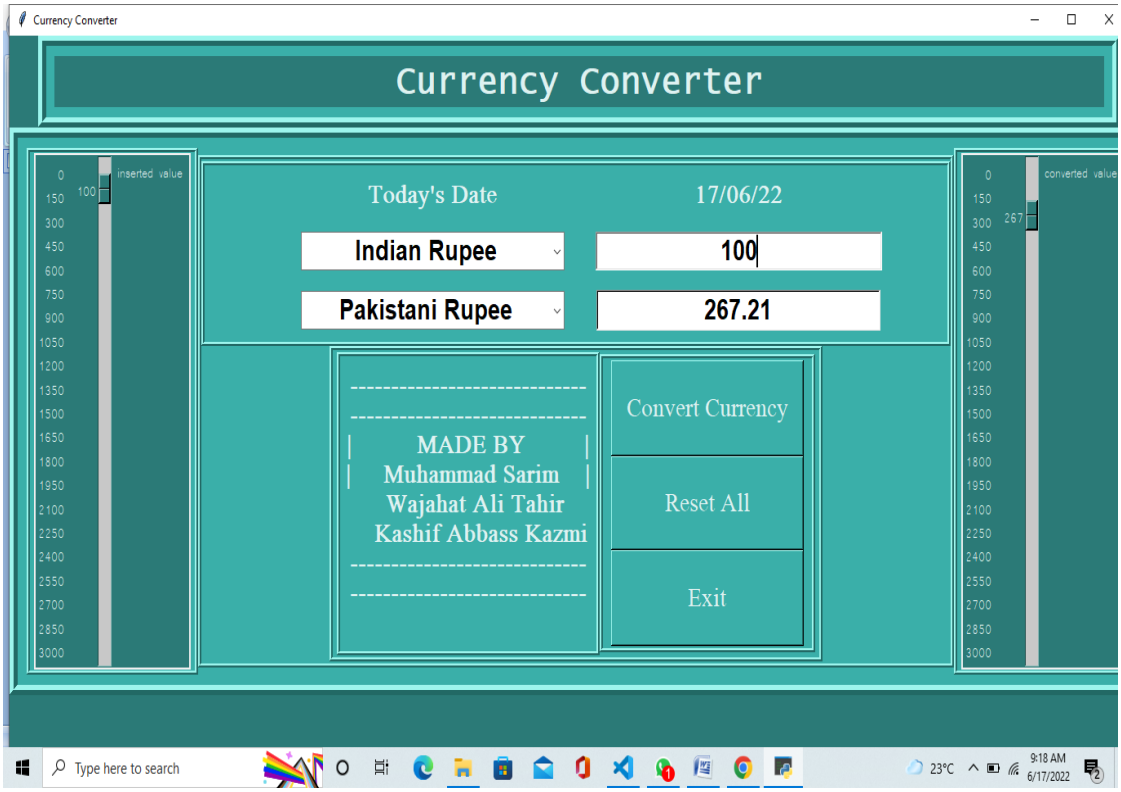
```
        Frame_2ButtomL = Frame(Frame_2Buttom, width = 450, height = 300, bd = 4, padx = 0, pady = 2, bg = "#3AAFA9", relief = RIDGE)
        Frame_2ButtomL.grid(row = 0, column = 0)

        Frame_2ButtomR = Frame(Frame_2Buttom, width = 350, height = 300, bd = 4, padx = 10, pady = 2, bg = "#3AAFA9", relief = RIDGE)
        Frame_2ButtomR.grid(row = 0, column = 1)



        # Names of group members
        self.name1 = Label(Frame_2ButtomL, font = ('Mongolian Baiti', 20, 'bold'), text = '-----------------------\n-----------------------------\n|          MADE BY          |\n|     Muhammad Sarim    |\n|          Wajahat Ali          |\n|       Kashif Abbass       |\n-----------------------------\n-----------------------------\n', padx = 2, pady = 10, bg = "#3AAFA9", fg = "#DEF2F1", bd = 2, width = 18)
        self.name1.grid(row = 0, column = 0)



        # Prints date
        self.date_title = Label(Frame_2Top, font = ('Mongolian Baiti', 20, 'bold'), text = "Today's Date", padx = 2, pady = 10, bg = "#3AAFA9", fg = "#DEF2F1", bd = 2, width = 18)
        self.date_title.grid(row = 0, column = 0)
        self.Date_print = Label(Frame_2Top, font = ('Mongolian Baiti', 20, 'bold'), textvariable = date_today, padx = 2, pady = 10, bg = "#3AAFA9", fg = "#DEF2F1", bd = 2, width = 12, justify = 'center')
        self.Date_print.grid(row = 0, column = 1)



        # Scale on right side
        self.Converted = Scale(Frame_ScaleR, variable = scale_convert, from_ = 0, to = 3000, length = 500, tickinterval = 150, orient = VERTICAL, bg = '#2B7A77', fg = "#DEF2F1", label = "converted value", font = ('Microsoft Yi Baiti', 12))
        self.Converted.grid(row = 0, column = 0, rowspan = 2)

        # Scale on Left side
```

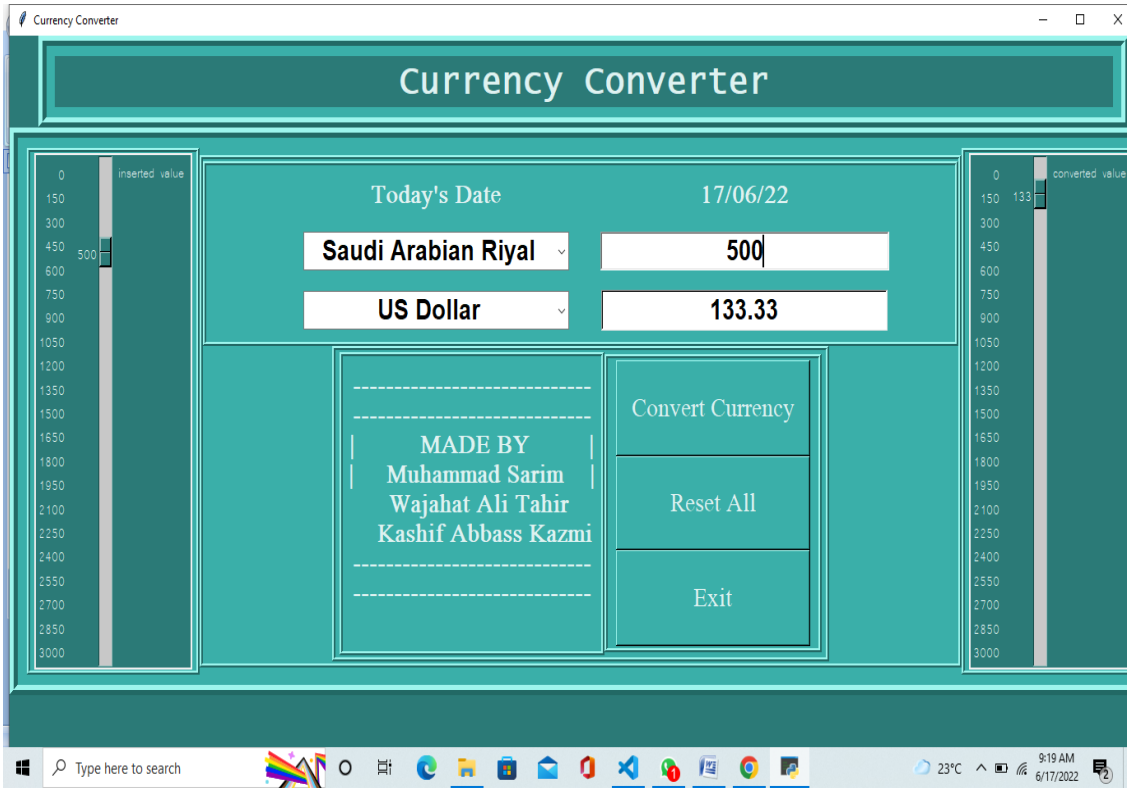
```
        self.Inserted = Scale(Frame_ScaleL, variable = scale_insert, from_ = 0, to = 3000, length = 500, tickinterval = 150, orient = VERTICAL, bg = '#2B7A77', fg = "#DEF2F1", label = "inserted value", font = ('Microsoft Yi Baiti', 12))
        self.Inserted.grid(row = 0, column = 0, rowspan = 2)



        # Selection of currency that we want to convert
        self.input_currency = ttk.Combobox(Frame_2Top, textvariable = value0, state = 'readonly', font = ('Myriad Arabic', 20, 'bold'), width = 20,justify = 'center')
        self.input_currency['values'] = countries
        self.input_currency.current(0)
        self.input_currency.grid(row = 1, column = 0, padx = 38, pady = 10 )

        # making a box in gui to enter the value of currency to convert
        self.EntCurrency = Entry(Frame_2Top, font = ('Myriad Arabic', 20, 'bold'), textvariable = insert_value, bd = 2, width = 23, justify = 'center')
        self.EntCurrency.grid(row = 1, column = 1, pady = 10)



        # Selection of currency in which we want to convert
        self.output_currency = ttk.Combobox(Frame_2Top, textvariable = value1, state = 'readonly', font = ('Myriad Arabic', 20, 'bold'), width = 20, justify = 'center')
        self.output_currency['values'] = countries
        self.output_currency.current(0)
        self.output_currency.grid(row = 2, column = 0, padx = 38, pady = 10)

        # making a box in gui which the converted value of our currency
        self.lblCurrency = Label(Frame_2Top, font = ('Myriad Arabic', 20, 'bold'), textvariable = convert_value, bd = 2, width = 20, bg = 'white', pady = 2, padx = 2, relief = 'sunken')
        self.lblCurrency.grid(row = 2, column = 1)
```

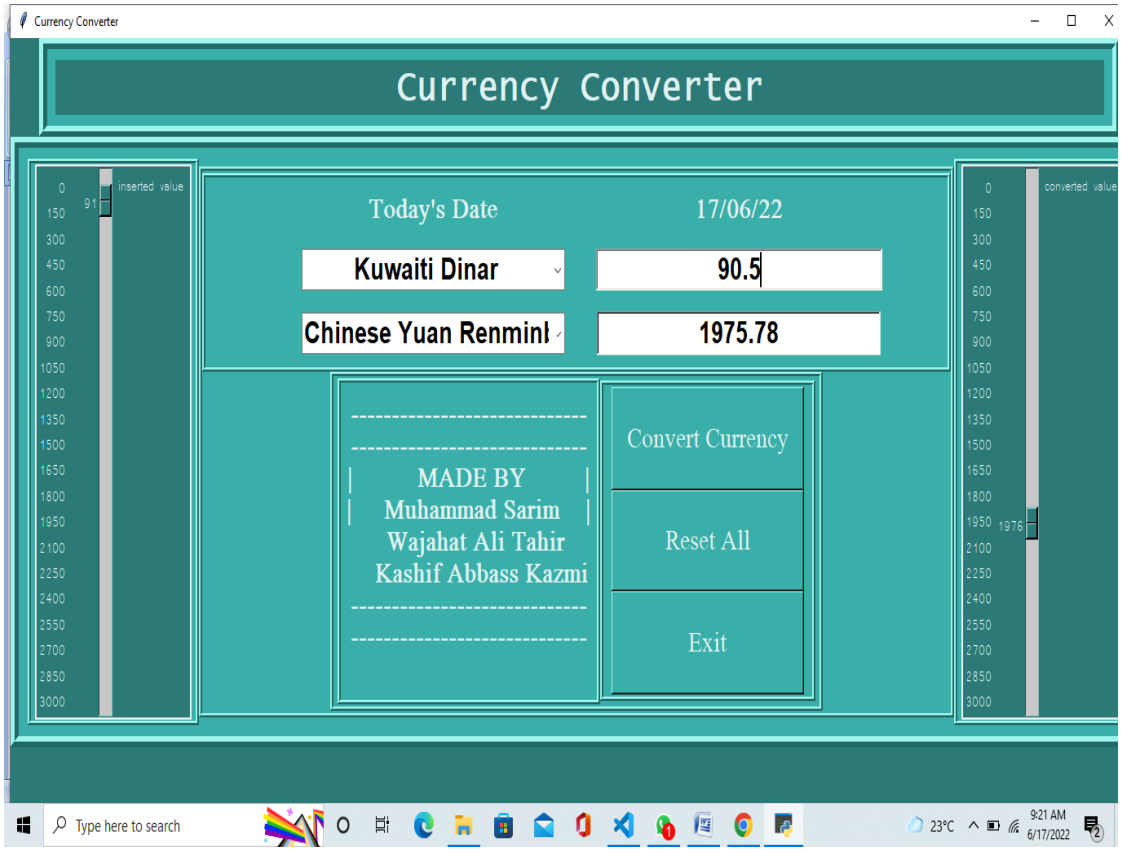
```
        # Button to convert currencies
        self.btnconvert = Button(Frame_2ButtomR, text = "Convert Currency", padx = 2, pady = 8, bd = 2, bg = "#3AAFA9", fg = "#DEF2F1", font = ('Mongolian Baiti', 20, ), width = 14, height = 2, command = value_converted)
        self.btnconvert.grid(row = 4, column = 0)



        # Button to reset everything
        self.btnReset = Button(Frame_2ButtomR, text = "Reset All", padx = 2, pady = 7, bg = "#3AAFA9", fg = "#DEF2F1", font = ('Mongolian Baiti', 20,), width = 14, height = 2, command = reset_all)
        self.btnReset.grid(row = 5, column = 0)

        # Button to exit or kill the program
        self.btnExit = Button(Frame_2ButtomR, text = "Exit", padx = 2, pady = 8, bg = "#3AAFA9", fg = "#DEF2F1", font =('Mongolian Baiti', 20,), width = 14, height = 2, command = exit_window)
        self.btnExit.grid(row = 6, column = 0)

if __name__ == "__main__":
    BaseAll = Tk()
    app_main_converter = currency_converter(BaseAll) #calling the object of class
    BaseAll.mainloop() #loop for the gui
```

Test Cases/ Output:-


Currency Converter
Currency Converter
inserted value
converted value
Today's Date
17/06/22
US Dollar
1
Pakistani Rupee
208.21
MADE BY
Muhammad Sarim
Wajahat Ali Tahir
Kashif Abbass Kazmi
Convert Currency
Reset All
Exit
Type here to search
23°C
9:10 AM
6/17/2022

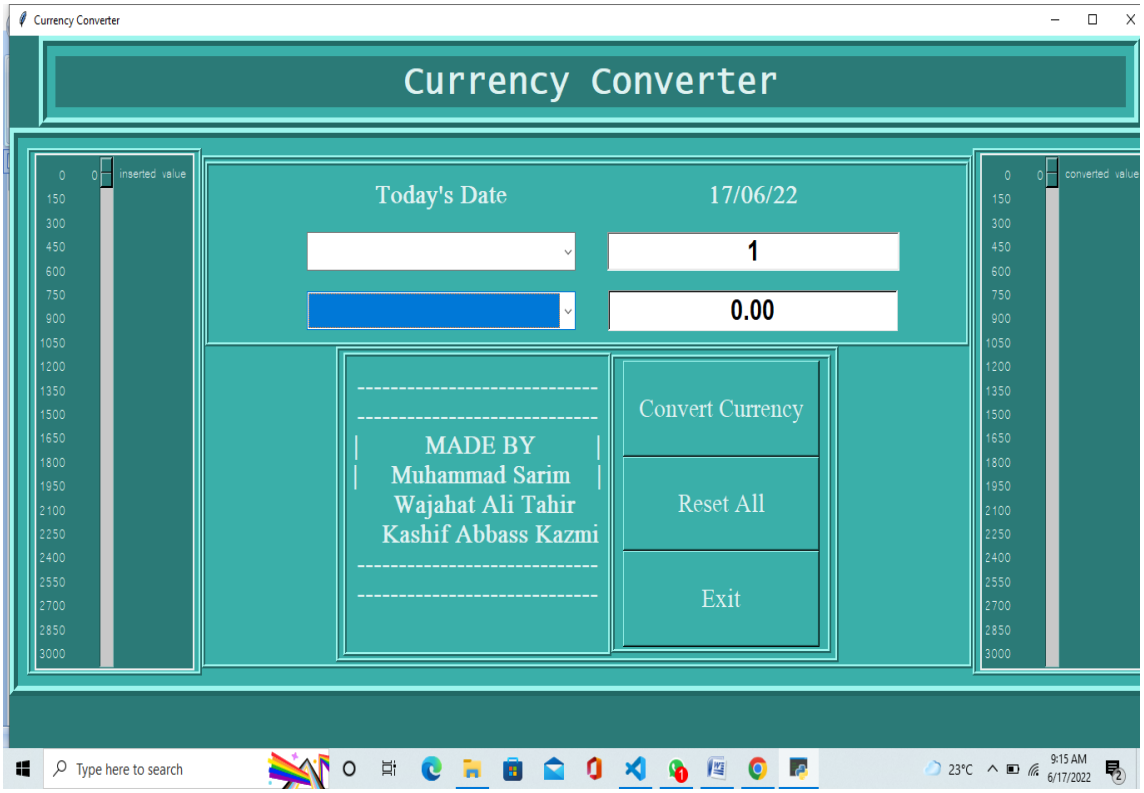

Currency Converter
Currency Converter
inserted value
converted value
Today's Date
17/06/22
Indian Rupee
100
Pakistani Rupee
267.21
MADE BY
Muhammad Sarim
Wajahat Ali Tahir
Kashif Abbass Kazmi
Convert Currency
Reset All
Exit
Type here to search
23°C
9:18 AM
6/17/2022


Currency Converter
Currency Converter
inserted value
converted value
Today's Date
17/06/22
Saudi Arabian Riyal
500
US Dollar
133.33
MADE BY
Muhammad Sarim
Wajahat Ali Tahir
Kashif Abbass Kazmi
Convert Currency
Reset All
Exit
Type here to search
23°C
9:19 AM
6/17/2022


Currency Converter
Currency Converter
inserted value
converted value
Today's Date
17/06/22
Kuwaiti Dinar
90.5
Chinese Yuan Renminl
1975.78
MADE BY
Muhammad Sarim
Wajahat Ali Tahir
Kashif Abbass Kazmi
Convert Currency
Reset All
Exit
Type here to search
23°C
9:21 AM
6/17/2022

Buttons:-

A. Reset all:-



B. Exit Function:-