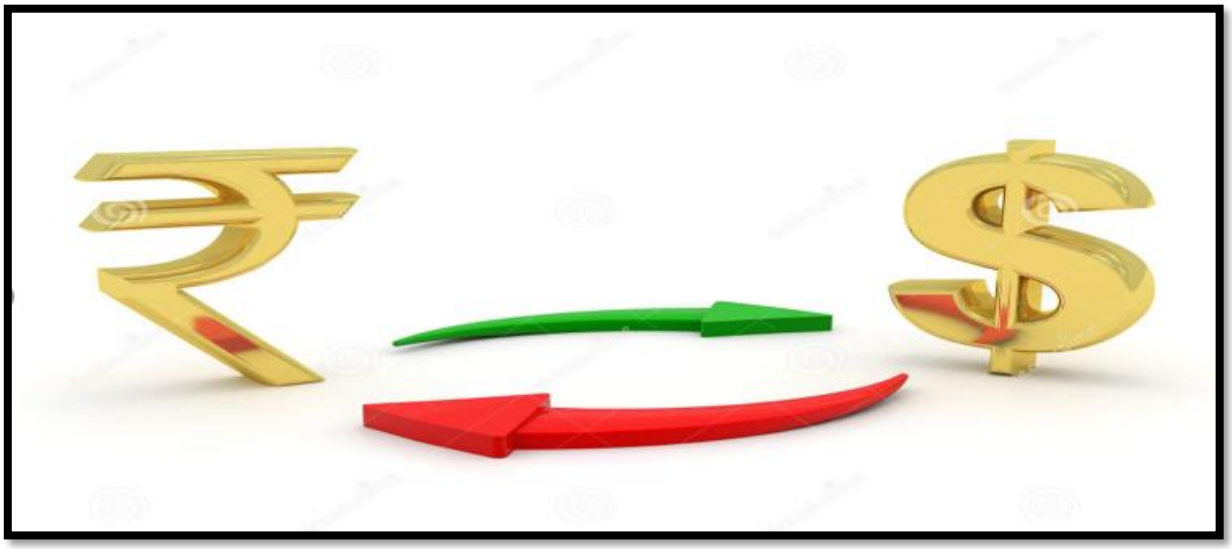
HANDS ON PYTHON (CSE 106L)

PROJECT REPORT

PROJECT: -

CURRENCY CONVERTER with G.U.I



DONE BY

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Department and Section: - CSE – L

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INTRODUCTION: -

My name is Hashmmath Shaik and I am from CSE-L with registration number AP20110010809.

I have selected the Topic CURRENCY CONVERTER Using PYTHON with G.U.I (GRAPHICAL USER INTERFACE).

In this Project I have included the currencies of every country and also have given the option to the User to select his/her own choice of currency and also will be able to give his/her own choice of amount in the application which I have generated using Tkinter and this all comes under G.U.I, and also I have imported a file or function from Tkinter i.e., messagebox which is just a dialogue box which incase any error is detected by the code because of the Internet connection or Error in the given input amount.

And also, I have installed and imported google_currency library in order to give the live updates on the currency day to day and this is the reason that the code requires a Internet Connection.

These are the basic things to introduce before explaining the whole CODE.

OBJECTIVE: -

The main objective of doing this project is that there has been a lot of development when it comes to each and every sector and people are trying to look for different different opportunities like going out of country and also try to settle there and also some students are going abroad for higher studies and look for opportunities there.

As each and every country has their own Government and their respective currency. So, the people or students who are going to other countries face difficulty on how to spend the money and to multiplying each and every time and is a difficult job.

Keeping this in mind I have developed and designed a code which helps the user whoever is using it where ever they are using it is irrespective of place it has the option for the user to give the input from which currency he/she wants to convert from and also in which currency he/she wants to convert.

This is the main objective and motto that lead me to do this project.

CODE: -

```
# AP20110010809
# Hashmmath Shaik
# CSE-L

from tkinter import *  # Using tkinter library to generate a GUI
application

from tkinter.ttk import Combobox  # A combobox allows you to select
one value in a list of values
# The basic functionality of tkinter.ttk is to separate the Data, to
the extent possible

from google_currency import convert
# A simple library to convert the currency of one country to other,
it supports 153 countries' currency

import json  # JSON (JavaScript Object Notation) is commonly used
for transmitting data in web applications

from tkinter import messagebox

# There is a option of messagebox in TKINTER to display a dialogue
box in case of error or Warning

root = Tk()  # Tk root widget, which is a window with a title bar
and other decoration provided by the window manager.
# The root widget has to be created before any other widgets and
there can only be one root widget.

root.geometry("700x425")  # For setting the size of the Application
root.title("CURRENCY CONVERTER")  # The Name of the Application
root.config(bg="black")  # Selecting the Background of the
Application

with open("Currency.txt") as f:  # using file handling to take the
currencies that are in the form of text
    lines = f.readlines()  # readlines() function uses to read each
and every line of the text file

dicttop = {}  # declaring a dicttop variable for creating a
dictionary

for line in lines:  # for specifically taking the required point
from the file in this case it is the LINES.
    opaque = line.split("\t")
    # Split() function is used to split the lines that are given in
the txt file with countries' currencies
    dicttop[opaque[1]] = opaque[2]  # in this declaration we are
declaring two list having same DATA
    # with the column numbers(1&2) in the file ind.txt
```

```
def functionbutton():  # defining a function functionbutton() for
the convert button to convert the currency
    try:  # The try block is used to check some code for errors
        # the code inside the try block will execute when there is
no error in the program

        Box1 = Combobox1.get()  # The Box1 is declared as combobox
as it contains one set of the currencies
        # but has a selecting option for the user like the main
functionality of combobox
        # the get() function takes the Input or the selected
currency given by the user

        Box2 = Combobox2.get()  # The Box2 is declared as combobox
as it contains same set of currencies
        # but has a selecting option for the user like the main
functionality of combobox
        # the get() function takes the Input or the selected
currency given by the user

        laptop = dicttop[Box1]  # declaring any variable to take the
respected value from the list
        laptip = dicttop[Box2]  # declaring any variable to take the
respected value from the list
        serial = var1.get()  # get() function takes the amount value
given by the user where var1 is declared
        opol = convert(laptop, laptip, serial)  # convert() is used
to convert specific set of inputs
        # like the from and to currencies and also the amount inputs
given by the user
        load = json.loads(opol)  # json is a subset of JavaScript
syntax used as a lightweight interchange format
        amount = load["amount"]  # "amount" is used to only print
the amount rather than anyother data
        var2.set(amount)  # set() function assigns the answer that
is the converted value to the respective box in
        # which the output will be printed or displayed

    except:  # if the try block catches error it gets directed into
except block and displays the error if any given
        rr = messagebox.askretrycancel("A Problem Has Been
Occurred",
                                       "Please Check your Internet
Connection or Check the Amount You Have Entered.")
        # message box in the sense dialogue box for any error or
loss of internet


Title = Label(root, text="MODERN CURRENCY CONVERTER", fg="RED",
bg="BLACK", font=("Arial Black", 19, "italic"))
# For giving Title Inside the Application.

Title.place(x=110, y=10)  # Position of the Title in the Applicaion

Lable1 = Label(root, text="Enter the Amount to Convert :-",
bg="Black", fg="Green",
```

```
                font=("Arial Black", 17, "italic", "bold"))
# Text for intimating the user to give the Input Amount

Lable1.place(x=10, y=60)  # Position of the Message for the User
Intimation

var1 = IntVar()  # Declaring the Input Variable As String the Int
represents to give as Integer form only
feeder = Entry(root, width=26, text=var1, bg="white", fg="maroon",
font=("cambaria math", 15, "bold"))
# Generating a BOX or Section for giving Input Amount. Here,FEEDER
is used for Taking Input from User like "scanf" in C.

feeder.place(x=405, y=67)  # Position of the BOX or Sector for
Giving Input Money

Label2 = Label(root, text="Select the Currency to Convert Your
Amount From :- ", bg="black", fg="orange",
               font=("calibri", 15, "bold", "italic"))
# Gives the User a chance to select the Currency to convert the
amount

Label2.place(x=15, y=120)  # Position of the Message for the user
Intimation.

slider = StringVar()  # This is declared as the way of giving the
input as a option
Combobox1 = Combobox(root, width=23, textvariable=slider,
state="readonly", font=("calibri", 13, "bold"))
# readonly function is used to take the values or information only
for the purpose of using them not to edit them
Combobox1['values'] = [item for item in dicttop.keys()]
# The combobox 1 contains the name and information related to the
currencies

Combobox1.current(4)  # the 4 is the indexing value taken by the
python from the txt file for default currency
Combobox1.place(x=463, y=125)  # position of the box for selecting
currency

Lable3 = Label(root, text="Select the Currency to Convert Your
Amount To     :-  ", bg="black", fg="light blue",
               font=("calibri", 15, "bold", "italic"))
# Gives the User a chance to select the Currency to convert the
amount

Lable3.place(x=15, y=180)  # Position of the Message for the user
Intimation in the application

foreground = StringVar()  # declaring a variable as string
Combobox2 = Combobox(root, width=23, textvariable=foreground,
state="readonly", font=("calibri", 13, "bold"))
# readonly function is used to take the values or information only
for the purpose of using them not to edit them
Combobox2['values'] = [item for item in dicttop.keys()]
# The combobox 2 contains the name and information related to the
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```
currencies

Combobox2.current(0)  # the 4 is the indexing value taken by the
python from the txt file for default currency
Combobox2.place(x=463, y=185)  # Position of the slider box in the
application for selecting currency

Button1 = Button(root, bg="white", text="CONVERT",
command=functionbutton, fg="red", font=("arial black", 14, "bold",

"italic"), relief=RAISED,
                 cursor="hand2")
# The button is the main part that runs the calculations and
generates the output
# The relief style of a widget refers to certain simulated 3-D
effects around the outside of the widget
Button1.place(x=280, y=240)  # position of the button in the
application

Label4 = Label(root, text="Converted Amount  :- ", bg="black",
fg="maroon", font=("Arial Black", 17, "italic",

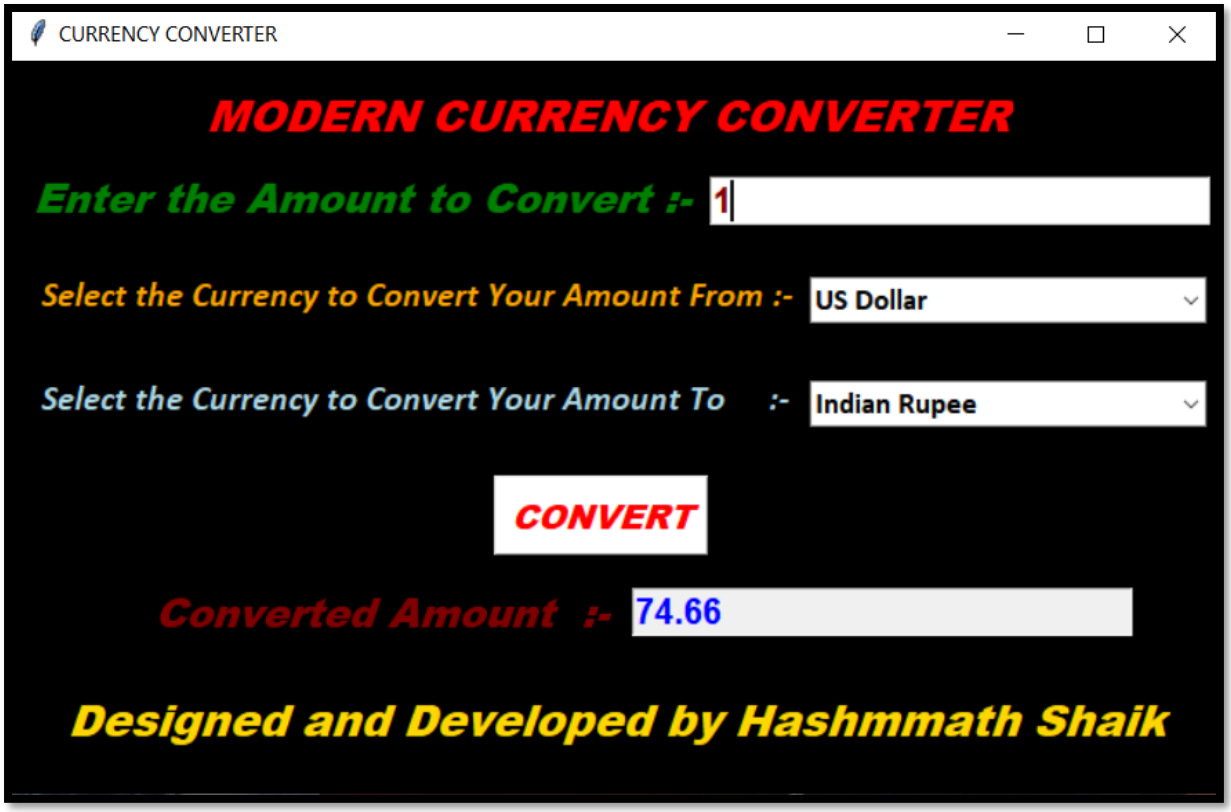
"bold"))
# gives the message where the output is printed
Label4.place(x=80, y=300)  # position of the output message in the
application

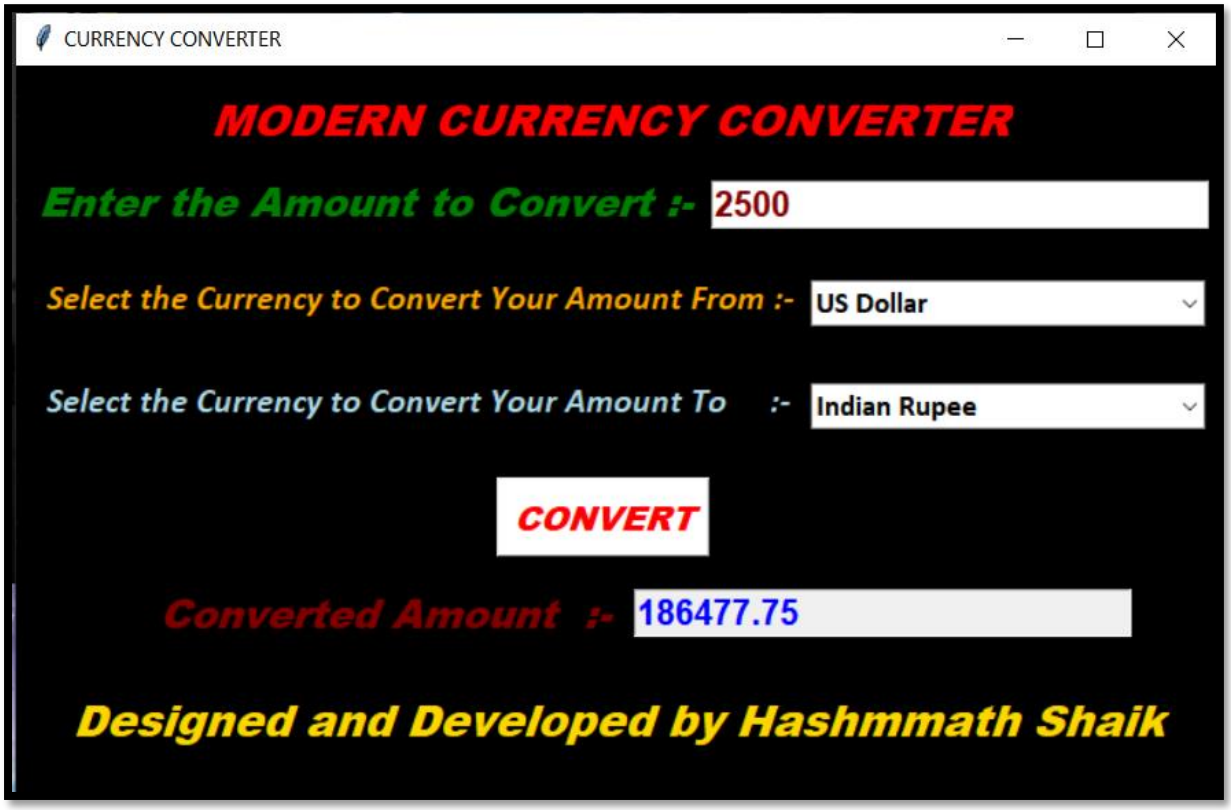
var2 = IntVar()  # declaring variable var2 as a string IntVar()
Entry2 = Entry(root, textvariable=var2, fg="blue", state="readonly",
width=26, font=("cambaria math", 15, "bold"))
# gives the calculated output in the box in the format of readonly
so that the user cannot change or edit it.
Entry2.place(x=360, y=305)  # Position of the output box in the
application

footer = Label(root, text="Designed and Developed by Hashmmath
Shaik", bg="black", fg="GOLD",
               font=("Arial Black", 19, "italic"))  # Message box
for the AUTHOR
footer.place(x=30, y=360)  # Position of the box in the application

root.mainloop()  # Creates the tkinter widget
```

SCREENSHOT's OF OUTPUT: -



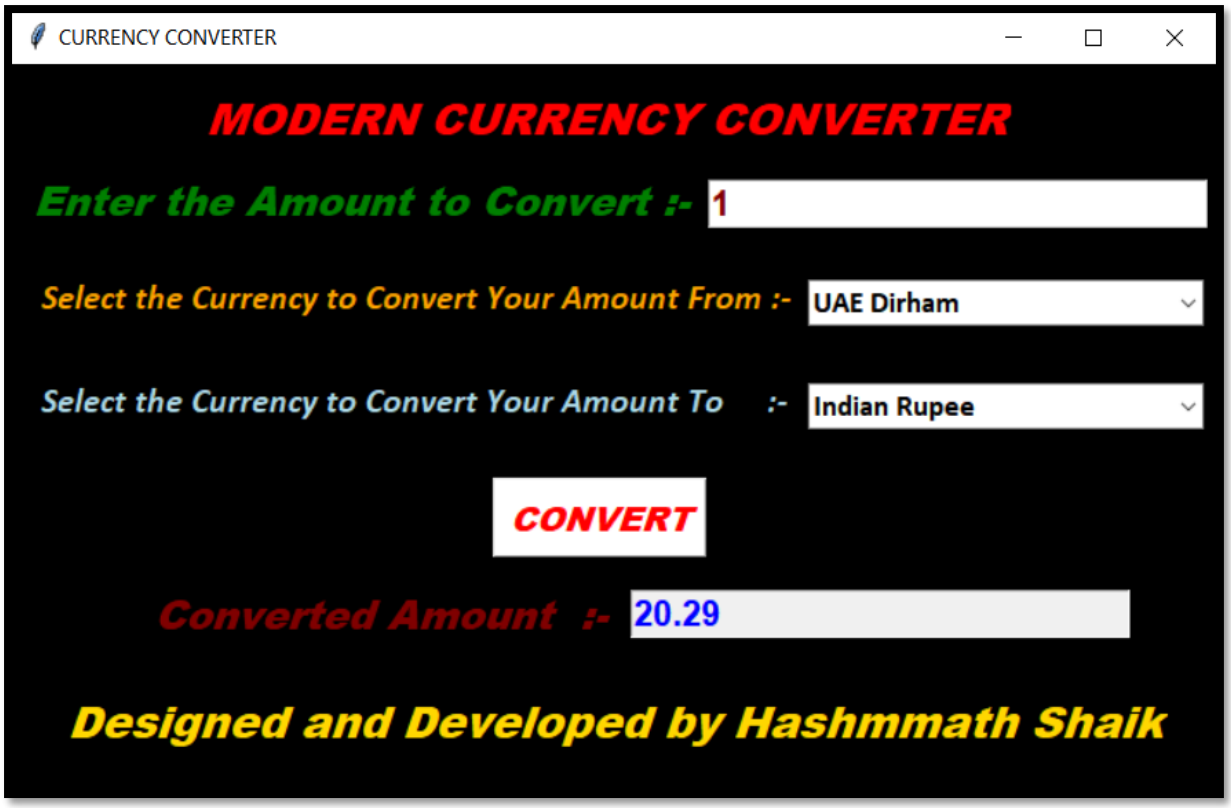


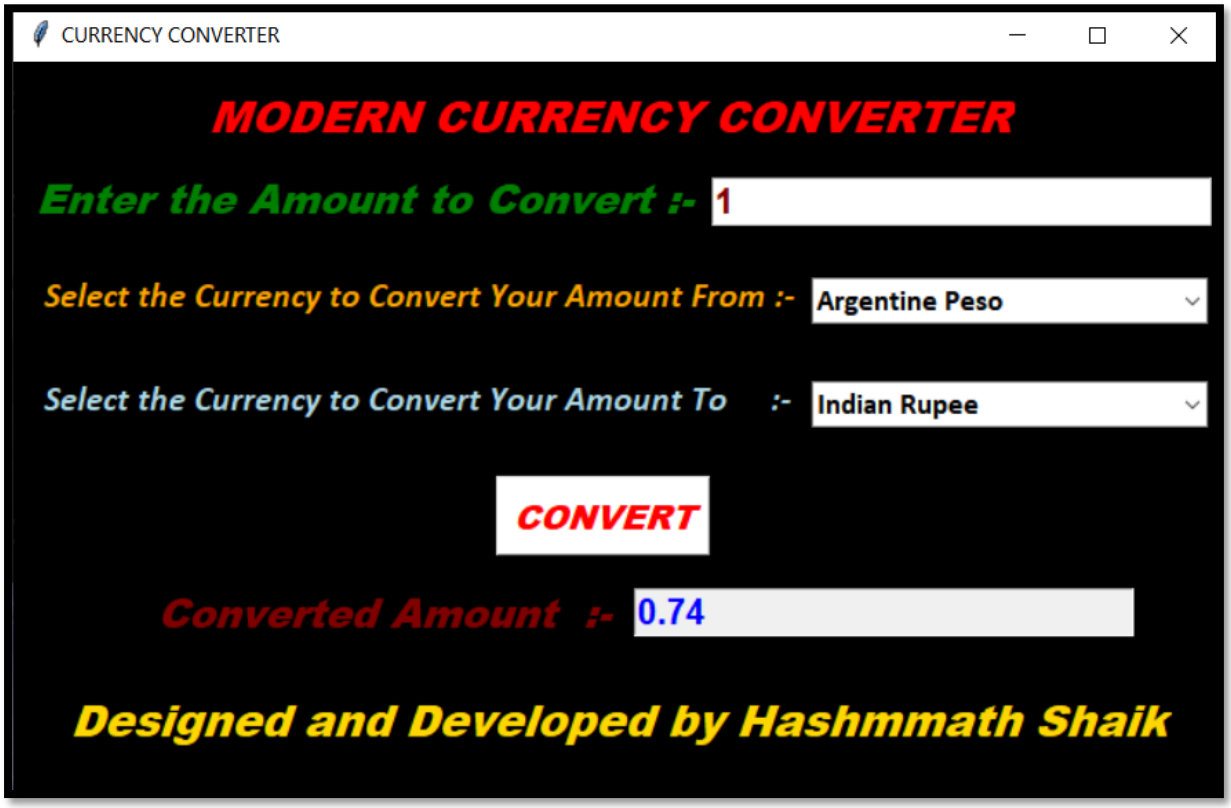

CURRENCY CONVERTER
MODERN CURRENCY CONVERTER
Enter the Amount to Convert :- 1
Select the Currency to Convert Your Amount From :- Euro
Select the Currency to Convert Your Amount To :- Indian Rupee
CONVERT
Converted Amount :- 83.43
Designed and Developed by Hashmmath Shaik


CURRENCY CONVERTER
MODERN CURRENCY CONVERTER
Enter the Amount to Convert :- 500
Select the Currency to Convert Your Amount From :- Euro
Select the Currency to Convert Your Amount To :- Indian Rupee
CONVERT
Converted Amount :- 41729.50
Designed and Developed by Hashmmath Shaik


CURRENCY CONVERTER
MODERN CURRENCY CONVERTER
Enter the Amount to Convert :- 1
Select the Currency to Convert Your Amount From :- Australian Dollar
Select the Currency to Convert Your Amount To :- Indian Rupee
CONVERT
Converted Amount :- 53.60
Designed and Developed by Hashmmath Shaik


CURRENCY CONVERTER
MODERN CURRENCY CONVERTER
Enter the Amount to Convert :- 500000
Select the Currency to Convert Your Amount From :- Indian Rupee
Select the Currency to Convert Your Amount To :- Australian Dollar
CONVERT
Converted Amount :- 9329.43
Designed and Developed by Hashmmath Shaik


CURRENCY CONVERTER
MODERN CURRENCY CONVERTER
Enter the Amount to Convert :- 1
Select the Currency to Convert Your Amount From :- UAE Dirham
Select the Currency to Convert Your Amount To :- Indian Rupee
CONVERT
Converted Amount :- 20.29
Designed and Developed by Hashmmath Shaik


CURRENCY CONVERTER
MODERN CURRENCY CONVERTER
Enter the Amount to Convert :- 1
Select the Currency to Convert Your Amount From :- Argentine Peso
Select the Currency to Convert Your Amount To :- Indian Rupee
CONVERT
Converted Amount :- 0.74
Designed and Developed by Hashmmath Shaik

EXPLANATION OF THE CODE: -

For this Project I have Generated a Graphical User Interface (G.U.I) for this we have to use a library known a tkinter which is a Standard Python Library. And tkinter also provides Various Controls, such as Buttons, Labels, and Text boxes that are used in a GUI Application. And also, when we use from tkinter import * which is the first line of the code which means that the functionalities and also the properties will be fully used and also can be declared in our own choice that means it allows a limitless functionality of any library

Creating G.U.I only is not sufficient as the User must know where to enter the amount, where to convert the amount from and where to convert it to and also the converted amount should also be shown in the same application as it is the main objective here.

For this we have to use some functionalities and also some of the important properties from the library tkinter like root, title, mainloop, config, label, place, fonts, colors, geometry, and many more which are to generate a perfect application.

Here, Tk root widget, which is a window with a title bar and other decoration provided by the window manager. In any application there can be only one root() function and also should be created before any other Widget.

Geometry function is used to build the size of the Application.

Title function is used to give a title to the Application.

Label function is used to create or give any text format inside the application like MODERN CURRENCY CONVETER and also many other Text messages inside the Application and also this Label function is also used to edit the font size, font type, background, and also colour of the text. For this main reason that is to give the Text into the application we use Label function.

Place function is used to place the text, the boxes, buttons, and anything related to the Application in a specific defined place within the Application.

Entry function is used to create a specific section or the place in the application for giving a chance to the User to give an Input amount.

Button function is used to Generate a box in order to run the program for the given input for a selected currency and in this the main function is declared that is the main function that performs Conversion and also there are specific graphics in the Button function.

And the main function of all the tkinter functions that is the root.mainloop() which is generally declared at the last of the code which means at the end of generating application with specified texts, boxes, and buttons. This function is the main reason that creates the tkinter widget i.e., the application.

Now another main Library that is also based on tkinter that is tkinter.ttk whose basic functionality is that it is used to separate Data, to the extent possible. And from tkinter.ttk we will import an important function that is known as Combobox. And also many other important functionalities from the tkinter.ttk and they are also used in the button function.

Combobox function allows us to select the one value in a list of values. Like in this project there are different currencies which are used so when it comes

to the usage of the combobox there is a chance for the user to select the currency he/she wants to convert from without the use of typing and can scroll down for selecting the currency and this is the main cause for using the Combobox.

In this tkinter.ttk function we will use a advanced Button which has a separate graphic function that is for clicking action in the application and also can select the cursor type whenever it gets to the button and this is possible because of the tkinter.ttk library.

Now, why the conversion happens when we click on the convert button?

In the CODE, I have declared a Variable known as lines under the function of readlines() which reads the lines from the file that I have included each and every countries economy. And I have used a for loop to consider each and every line of the Data File and also assigned a variable opaque and assigned to split the lines in the Data File using split() function and before we declared a dicttop={} as dictionary and storing the list opaque data in the dictionary and also the opaque list contains the data present in columns of the data file.

Now, I have defined a functionbutton() which is used to collect the data from the slider or combobox in the application and with some functions it will convert the amount to the required currency when the user clicks the Convert Button.

And I have used try block in which using the get() function the program takes the input from the user selected in the combobox 1&2, and declaring two variables laptop and laptip which contains the data that is given in the dicttop dictionary using lists in both the boxes, and declaring a variable serial which takes the amount input from the User, and declared a variable opol which uses a convert function that coverts the amount according to the given information, and also I have imported json library whose main function is to transmit data in web applications in this case it transmits the data from the data file and uses in the main function that is functionbutton() and also declared a variable load which is assigned for loads() function which loads the data and using a variable amount which loads the converted amount into the variable var2.set(amount) which when we use it at the end of program where we declare a box which gives the output or the converted amount when the user clicks the Convert button and this is the program or process that goes

behind in the code when the user clicks the Convert button.

As, I have used try block for checking whether the user is giving the correct information or not so, to warn the user that he/she has given wrong data or information I have used a except block and in that I have used a function messagebox.askretrycancel which has the warning message and by using the message box a dialog box will appear and shows the warning message.

And the main program starts that is the building of the application that has all the messages that informs the user to give input amount, select the currencies, creating a button animation to click on the button to convert the amount and finally a box that gives the converted amount and these all are achieved by tkinter, tkinter.ttk, google_currency which contains and updates all the currency values daily minute to minute like a original google currency converter and this is reason the user should connect to the Internet before using this, and at last json library. These are the libraries that I used for completing my project code and to create G.U.I and many more using them.

This is the complete explanation of my Project Code.

CONCLUSION: -

As already been said that the world is developing constantly and people are looking for many opportunities and trying to accept them for better living and many of them have went to abroad for better living and are facing some problems when it comes to money problems for converting it into their respective or known currency for better Idea and not to confuse.

So, that is why basically I have taken this project to reduce the confusion, Stress, amount of work, and many more related to converting a currency.

My Project Currency Converter is a One Stop Solution for Problems Related to Currency Conversion.

Please click on the below link for Project Code!

(The CODE in the LINK is SAME as the ABOVE CODE, but this CODE is for more clarification and without any issues with the indentation and also errors related on copy pasting the Code on Compiler.)

LINK: - ***PYTHON PROJECT CODE, AP20110010809***

THANK YOU