

Project Proposal: Tip Calculator

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Background and Goals

[Why is the project being undertaken? Describe an opportunity or problem that the project is to address. Explain your overall goals for the project. Think of this as your project's thesis statement.]

I've always noticed that when dinning out with a group of friends dividing up the bill and identifying how much each individual owes is always a pain. My goal is to create a Tip Calculator that does the math for you. It would take into account the cost of the meal, the tip percentage, and number of people dining together and spit out the individual cost per person.

Importance

Why is this topic important? (Relate this to your field, academic work, society or personal life).

Creating a Tip Calculator would put a slight ease on people's social lives. Anytime I dine out with a large group it always seems that one person ends up paying more than others just to make dividing up the bill "easier." In addition the waiter/waitress generally seems to get a lower tip than what they deserve because each individual just throws in a couple extra bucks instead of spending time checking that the math is correct.

Objectives

- Create a functioning calculator that outputs the individual cost when a group is splitting the bill
- Simplify the payment process for both the customers and business
- Have the calculator take into account the bill total, the preferred tip percentage, and the number of customers in order to output the correct cost

Challenges

What challenges do you think you will encounter?

My biggest challenge is going to be identifying how to best create a way for the user to select their tip percentage and the number of people in their group. In addition, it is

going to be difficult to take into account all the different portions of the mathematical equation in order to code it correctly.

Project Plan

What functions are you planning to use?

Through my code I plan on using the `print()` function in order to display the individual cost, as well as using two sets of dictionaries to allow the user to select their tip percentage and the number of people in their party.

Logic

Write out the logic of your program (a few bullets points) or create a list:

I would like to write a code that properly displays the following mathematical equation:

Meal Bill = \$266.89

Tip % = 0.20

Number of People = 9

Tip = Meal Bill(266.89) * Tip %(0.20) = 53.378

Total Cost = Tip(53.378) + Meal Bill(266.89) = 320.268

Individual Cost = Total Cost(320.268) / Number of People(9) ≈ \$35.58

***The following image is the beginning stage of code for the Tip Calculator

```
x = 266.00

tippercent = {
    "5%": 0.05,
    "10%": 0.10,
    "15%": 0.15,
    "20%": 0.20,
    "25%": 0.25
}

y = tippercent["20%"]

tip = (x * y)

totalcost = (tip + x)

numpeople = {
    "1": 1,
    "2": 2,
    "3": 3,
    "4": 4,
    "5": 5,
    "6": 6,
    "7": 7,
    "8": 8,
    "9": 9,
    "10": 10
}

z = numpeople["9"]

individualcost = (totalcost / z)

print(individualcost)
```