

# Code2Grow: 60 day's 2 Mission, Master C

## *Submission Template*

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**Roll Number / ID:** AP25110090158

**Date:** 23.10.2025

**Day #:** 2

**Challenge Title:** “THE SMART BILL SPLITTER”

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### 1. Problem Understanding

**Briefly explain the challenge in your own words (2–3 sentences)**

The goal is to calculate how much each person has to pay after including a 5% tax and 10% tip on a restaurant bill. One friend forgot his wallet, so the remaining two will split his share equally. The challenge is to perform all calculations using arithmetic and logical operators only—no `if`, `else`, `switch`, or loops.

### 2. Approach / Algorithm

**Explain your approach or logic before coding:**

1. Input the meal cost from the user.
2. Compute tax as **5%** and tip as **10%** of the meal cost.
3. Add them to get the total bill:

$$\text{total} = \text{meal} + \text{tax} + \text{tip}$$

4. Divide total bill by 3 to get each person's share.
5. Since one friend doesn't pay, his share is split equally by the other two.  
Each paying person's amount:

$$\begin{aligned} \text{you} = \text{friend2} &= \frac{\text{total}}{3} + \frac{\text{total}}{6} = \frac{\text{total}}{2} \\ \text{friend3} &= 0 \end{aligned}$$

6. Display total and each person's contribution.
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## 3. Source Code



day2challenge.pdf

## 4. Sample Input & Output

### Input:

```
Enter meal cost: 900
```

### Output:

```
Total bill: 1035.00
Each person should pay as follows:
You: 517.50
Friend 2: 517.50
Friend 3: 0.00
```

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## 5. Test Cases & Results

No.	Input	Expected Output (approx.)
1	900	Total = 1035.00 → You: 517.50, Friend 2: 517.50, Friend 3: 0.00
2	600	Total = 690.00 → You: 345.00, Friend 2: 345.00, Friend 3: 0.00
3	1200	Total = 1380.00 → You: 690.00, Friend 2: 690.00, Friend 3: 0.00

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## 6. Reflection / Learnings

This task helped me understand how expressions and operators can handle all logic without conditional statements. I learned to manage floating-point arithmetic and expression evaluation precisely using only basic arithmetic. It also reinforced how to structure readable and logically clear programs even when control structures are restricted.

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### Instructor Comments / Feedback:

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**Signature of Student**

**G.SAI AKSHARA PRABHU**

**Signature of Invigilator**

***--dryasir***