Goals & Objectives

The goal of this program is to accept inputs from a user for a subtotal and intended gratuity percent, and provide the sum of both, as a total, back to the user.

For example, if the user enters 10 for subtotal and 15% for gratuity rate, the program displays $1.5 as gratuity and $11.5 as total.

Functional Requirements

1. Prompt user input for the subtotal and the gratuity rate (as a percentage).
2. Calculate the gratuity to be paid.
3. Calculate the total to be paid.
4. Output the Gratuity and the Total to the user.

Pseudocode

Import Scanner Utility

Function Main {

Declare input as New Scanner

Output “Please enter the Subtotal (eg., 10.50) and Gratuity (eg., 15 for 15%): “

Input double subTotal

Input double gratuityRate

Declare double gratuityTotal as calculation of subTotal \* gratuityRate

Declare priceTotal as calculation of subTotal + gratuityTotal

Output “Gratuity: $” + gratuityTotal + “ and the total is: $” + priceTotal

End

Flowchart

A screenshot of a flowchart

Description automatically generated

Test Plan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test Case** | **Input/Output** | **Expected Result** | **Actual Result** | **Outcome (Pass/Fail)** |
| 1a | User prompted for subtotal and gratuity to use. | A message prompting the user for Subtotal and the intended gratuity. | “Please enter the subtotal (eg., 10.50) and the gratuity (eg., 15 for 15%) “ | Pass |
| 2a | Gratuity is calculated | Use user supplied input to calculate the Gratuity | SubTotal \* (gratuityRate / 100.0) | Pass |
| 3a | Total Price is calculated | Add the subtotal input and the calculated gratuity | subtotal + gratuityTotal | Pass |
| 4a | Output the gratuity and total prices paid. | A message that shows the user the actual dollar value of the gratuity and the total price. | “The gratuity is: $” + gratuityTotal + “ and the total is: $” + priceTotal | Pass |

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| --- | --- | --- | --- | --- |
| **Test Case** | **Input/Output** | **Expected Result** | **Actual Result** | **Outcome (Pass/Fail)** |
| 1 | (1a) 10 15 | 1.5, 11.5 | 1.5, 11.5 | Pass |
| 2 | (1a) 20 18 | 3.59, 23.6 | 3.59, 23.6 | Pass |
| 3 | (1a) 120 20 | 24, 144 | 24, 144 | Pass |
| 4 | (1a) 60 18 | 10.8, 70.8 | 10.8, 70.8 | Pass |

A screen shot of a computer program

Description automatically generated