PROBLEM

1. Write a program that computes and displays the amount of a 15%, 18%, and 20% tip when the price of a meal is input by the user.

ANALYSIS

IPO Chart

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable | Type | Input | Processing | Output |
| *meal\_price* | Float | X |  | X |
| *lowtip\_amount* | Float |  | X | X |
| *mediumtip\_amount* | Float |  | X | X |
| *hightip\_amount* | Float |  | X | X |

CONSTANTS

LOWTIP\_PERCENT = 0.15 MEDIUMTIP\_PERCENT = 0.18 HIGHTIP\_PERCENT = 0.20

FORMULAS

*lowtip\_amount* 🡨 meal\_price x LOWTIP\_PERCENT

*mediumtip\_amount* 🡨 meal\_price x MEDIUMTIP\_PERCENT

*hightip\_amount* 🡨 meal\_price x HIGHTIP\_PERCENT

TEST DATA

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| # | meal\_price | lowtip\_amount | mediumtip\_amount | hightip\_amount |
| 0 | 0.00 | $0.00 | $0.00 | $0.00 |
| 1 | 456.00 | $68.40 | $82.08 | $91.20 |
| 2 | 10.2 | $1.53 | $1.84 | $2.04 |
| 3 | 100 | $15.00 | $18.00 | $20.00 |

DESIGN (PSEUDOCODE)

**Declare** LOWTIP\_PERCENT As Float Constant = 0.15

**Declare** MEDIUMTIP\_PERCENT As Float Constant = 0.18

**Declare** HIGHTIP\_PERCENT As Float Constant = 0.20

**Declare** meal\_price, lowtip\_amount, mediumtip\_amount, hightip\_amount As Float

**Write** “Please Input the meal price”

**Input** meal\_price

**Set** *lowtip\_amount* 🡨 meal\_price x LOWTIP\_PERCENT

**Set** *mediumtip\_amount* 🡨 meal\_price x MEDIUMTIP\_PERCENT

**Set** *hightip\_amount* 🡨 meal\_price x HIGHTIP\_PERCENT

**Write** "Meal Price: $" + meal\_price

**Write** "Low Tip Amount: $" + lowtip\_amount + " (%" + (LOWTIP\_PERCENT x 100) + ")"

**Write** "Medium Tip Amount: $" + mediumtip\_amount + " (%" + (MEDIUMTIP\_PERCENT x 100) + ")"

**Write** "High Tip Amount: $" + hightip\_amount + " (%" + (HIGHTIP\_PERCENT x 100) + ")"