CIS 141

# COVER PAGE

INTRODUCTION TO PROGRAMMING

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UNIT 02 EXERCISE



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# NARRATIVE

This unit was easy, and I did not run into any problems. I played around with floating point precision in the print statements and figured out how to print a percent symbol which is nice I suppose.

This problem was so simple that I didn’t have any issues with the desk check except I named my variables to something pretty long and so it increased the size of the table quite a bit.

# DEFINING DIAGRAM

|  |  |  |
| --- | --- | --- |
| **INPUT** | **PROCESS** | **OUTPUT** |
| nbr1 | P & G nbr1 |  |
|  | Add nbr1 to total |  |
| nbr2 | P & G nbr2 |  |
|  | Add nbr2 to total |  |
| nbr3 | P & G nbr3 |  |
|  | Add nbr3 to total |  |
| nbr4 | P & G nbr4 |  |
|  | Add nbr4 to total |  |
| nbr5 | P & G nbr5 |  |
|  | Add nbr5 to total |  |
|  |  | Display Total |
|  |  | Display Tax Rate |
|  | Calculate grand total |  |
|  |  | Display Grand Total |

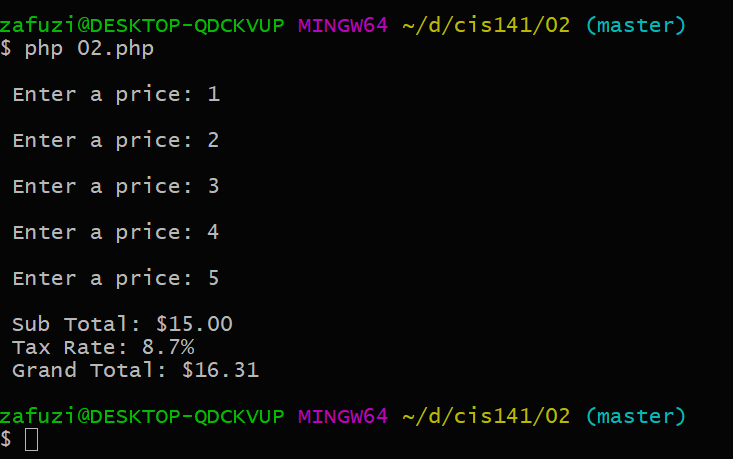
# HIERARCHY CHART

(not required until unit 6 or 7)

NASSI-SCHNEIDERMAN

|  |
| --- |
| PROMPT FOR INPUT |
| GET INPUT |
| PROMPT FOR INPUT |
| GET INPUT |
| PROMPT FOR INPUT |
| GET INPUT |
| PROMPT FOR INPUT |
| GET INPUT |
| PROMPT FOR INPUT |
| GET INPUT |
| CALC TOTAL |
| CALC GRAND TOTAL |
| DISPLAY RESULT |

# PROGRAM OUTPUT



# SOURCE CODE

# <?php

$tax\_rate = 0.087;

$price\_001 = 0.0;

$price\_002 = 0.0;

$price\_003 = 0.0;

$price\_004 = 0.0;

$price\_005 = 0.0;

$total = 0.0;

$grand\_total = 0.0;

printf("\n Enter a price: ");

fscanf(STDIN, "%f", $price\_001);

$total += $price\_001;

printf("\n Enter a price: ");

fscanf(STDIN, "%f", $price\_002);

$total += $price\_002;

printf("\n Enter a price: ");

fscanf(STDIN, "%f", $price\_003);

$total += $price\_003;

printf("\n Enter a price: ");

fscanf(STDIN, "%f", $price\_004);

$total += $price\_004;

printf("\n Enter a price: ");

fscanf(STDIN, "%f", $price\_005);

$total += $price\_005;

printf("\n Sub Total: $%.2f", $total);

printf("\n Tax Rate: %.1f%%", $tax\_rate \* 100);

// round up to get correct grand total

$grand\_total = round($total + ($total \* $tax\_rate), 2);

printf("\n Grand Total: $%.2f\n", $grand\_total);

?>



# DESK CHECK

**Incoming Data**: 1, 2, 3, 4, 5  
**MEM MAP**

*To keep the table small, P- = Price\_*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Line # | Tax\_rate | P-001 | P-002 | P-003 | P-004 | P-005 | Total | Grand\_total |
| 2 | 0.087 |  |  |  |  |  |  |  |
| 4 |  | 0.00 |  |  |  |  |  |  |
| 5 |  |  | 0.00 |  |  |  |  |  |
| 6 |  |  |  | 0.00 |  |  |  |  |
| 7 |  |  |  |  | 0.00 |  |  |  |
| 8 |  |  |  |  |  | 0.00 |  |  |
| 10 |  |  |  |  |  |  | 0.00 |  |
| 11 |  |  |  |  |  |  |  | 0.00 |
| 14 |  | 1.00 |  |  |  |  |  |  |
| 15 |  |  |  |  |  |  | 1.00 |  |
| 18 |  |  | 2.00 |  |  |  |  |  |
| 19 |  |  |  |  |  |  | 3.00 |  |
| 22 |  |  |  | 3.00 |  |  |  |  |
| 23 |  |  |  |  |  |  | 6.00 |  |
| 26 |  |  |  |  | 4.00 |  |  |  |
| 27 |  |  |  |  |  |  | 10.00 |  |
| 30 |  |  |  |  |  | 5.00 |  |  |
| 31 |  |  |  |  |  |  | 15.00 |  |
| 36 |  |  |  |  |  |  |  | 16.31 |

**Output**

Enter a price: 1

Enter a price: 2

Enter a price: 3

Enter a price: 4

Enter a price: 5

Sub Total: $15.00

Tax Rate: 8.7%

Grand Total: $16.31