**Example 2 of program development cycle (simple)**

**Question**: Write a car salesman program where the user enters the base price of a car. The program adds on extra fees as follows: tax which is 12 % of the base price; licence which is $130; commission which is 8% of the base price if base price less than 2000, and 10% otherwise. Display the actual price of the car once all the extras are applied. Give the user the option of getting a full printout listing base price, tax, commission and actual price, or simple printout of just the actual price.

Input

|  |  |  |
| --- | --- | --- |
| Name | Type | Availabilty |
| basePrice | float | keyboard |
| ansOutput | string | keyboard |

**Constants**

tax = 12%

licence = 130

highCommission = 10%

lowCommission = 8%

commissionlimit = 2000

**Output**

|  |  |  |
| --- | --- | --- |
| Name | Format | Where |
| finalPrice | Comment + 2 dec places | screen |

**Processing**

1. Decisions : if basePrice <commisionLimit

use lowCommision

else use highCommsion

if ansOutput = yes

print full output required

else

print short answer

1. Calculations

finalPrice 🡨 basePrice + taxPaid + licence + commissionRate \* basePrice

**TestData**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| basePrice | tax | commission | ansOutput | finalPrice | comments |
| 5000 | 600 | 500 | yes | 6230 | Full output |
| 1500 | 180 | 120 | no | 1930 | Short output |
| 2000 | 240 | 200 | yes | 2570 | Full output |

**Pseudocode**

Enter data: basePrice, ansOutput

Calculate the finalPrice

Display results

**Testing Plan**

#Version 1

Code to enter data and declare constants

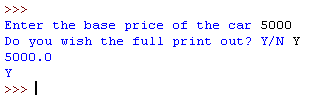
#Version2

Code to do calculations

#Version 3

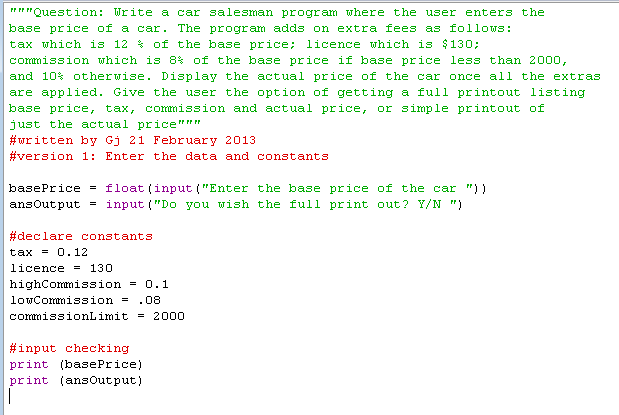
Code to give user choice of display

**Code and Testing evidence**

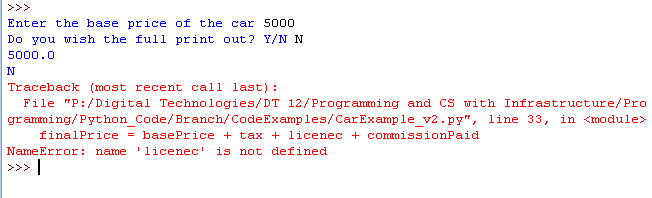


Data entry is correct

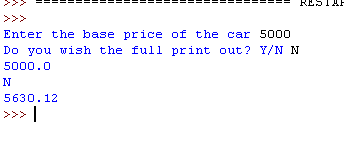
Code for version 1



Version 2

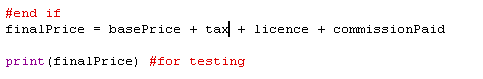


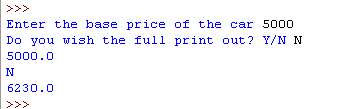
Typing error for variable



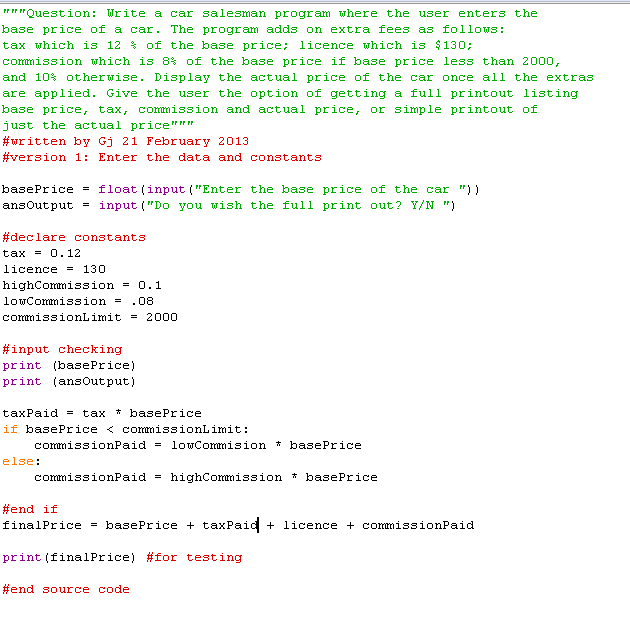
Output incorrect from test data checking

Added tax not taxpaid

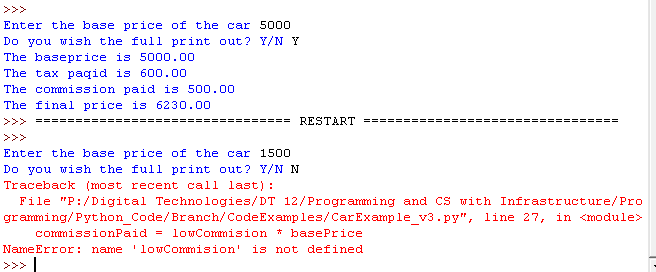




Output is now correct

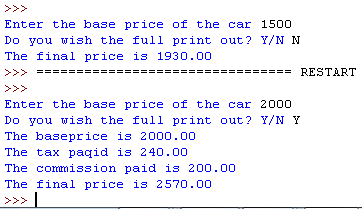


**Version 3**



Output is incorrect for test data as statement for commission paid is incorrect

Ouput is nlow correct



**Code for version 3**

