CIS 121 Introduction to Programming

Problem Set 3 – sequential code and the if statement

1. Allow a user to enter a quantity of an item. If the quantity is greater than or equal to 1000, the unit price should be $3.00. For quantities under 1000 the unit price is $5.00. Compute extended price to be quantity x unit price. Compute tax to be 7% of the extended price. The total is computed as extended price plus the tax. Display the quantity, unit price, extended price, tax and total.

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| Input | Process | Output |
| Quantity | If quantity <1000, set unit price to 5, otherwise set price to 3  Multiply Quantity by unit price to find extended price  Calculate tax as extended price multiplied by 0.07  Find Total price by adding tax and extended price | Display Quantity  Display Unit Price  Display Extended Price  Display Tax  Display Total Price |

1. The program asks the user for an item and quantity. Determine the unit price of the item based on the chart below. Compute the extended price to be quantity x unit price. Display the item, unit price and extended price. Note: if the item entered is not A then assume the item is B. No need to check for B.

Item Unit Price

A $10.00

B $20.00

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| Input | Process | Output |
| Item A or B  Quantity | If Item is A, set unit price to 10, otherwise set price to 20  Multiply Quantity by Unit Price to get Extended Price | Display Item A or B  Display Unit Price  Display Extended Price |

1. Enter the number of books to order and cost per book. If the order total is over $50.00 shipping is free. If the order total is $50.00 or under charge $25 shipping. Display the order total and shipping charge (note 0 should display for a free shipping charge).

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| Input | Process | Output |
| Number of Books(Quantity)  Cost per Book(Price) | Multiply Quantity by Price to get Extended Price  If Extended price is >50, set Shipping to 0, otherwise set Shipping to 25  Add Shipping and Extended Price to get Total Price | Display Total Price  Display Shipping |

1. The warrantee of an appliance depends on the cost of the appliance. For appliances over $1,000 the warrantee cost is 10% of the price. For appliances $1,000 or less the warrantee cost is 5% of the price. The user will enter the name and cost of an appliance. Display name and cost of appliance, the cost of the warrantee and the total (cost of the appliance + warranty).

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| Input | Process | Output |
| Name of Appliance  Cost of Appliance | If Cost is >1000, set warranty Percent 0.1, Otherwise set Warranty Percent to 0.05  Find Warranty Price by multiplying Cost by Warranty Percent  Add Cost to Warranty Price to get Total Price | Display Name of Appliance  Display Cost of Appliance  Display Cost of Warranty  Display Total Price |

1. Enter the user’s last name, number of dependents and gross income. Compute adjusted gross income to be gross income minus dependents times $12000. Next determine an income tax rate. Adjusted gross incomes over $50,000 have a tax rate of 20%. Adjusted gross incomes $50,000 or under have a tax rate of 10%.

Once you determine the tax rate, compute income tax to be adjusted gross income times tax rate. If the income tax is less than 0, set the income tax to $100.

Display last name, gross income, number of dependents, adjusted gross income, and income tax.

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| Input | Process | Output |
| Last Name  Number of Dependents  Gross Income | Find Adjusted Gross Income by subtracting 12000 \* dependents from Gross Income  If Adjusted Gross income >50000, set Tax rate to 0.2, Otherwise set Tax rate to 0.1  Find Owed Tax by multiplying Adjusted Gross Income by Tax rate  If Owed Tax <0, set Owed Tax to 100 | Display Last Name  Display Number of Dependents  Display Gross Income  Display Adjusted Gross Income  Display Owed Tax |