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 |
| * # of items | * If quantity is less than 1000 multiply by 5 dollars * Else multiply by 3 * Multiply price by .07 and add to total | * Quantity * Unit price * Extended price * Tax * total |

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 then multiply quantity by 10 * Else multiply by 20 | * Item * Price * Total 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 |
| * Quantity * Cost per book | * Multiply quantity by cost * If multiplication is greater than 50 shipping is free * Else charge 25 dollar shipping | * Order total * Shipping charge |

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 |
| * Price * name | * If price is bigger than 1000 multiply by .1 * Else multiply by .05 * Add warranty to price | * Name * Price * Warranty amount * 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 |
| * Name * Dependents * Gross income | * Multiply dependents by 12000 * Subtract gross by dependent adjustment * If adjusted is over 50K multiply by .2 * Else multiply by .1 * If income tax is less than zero set to 100 | * Last Name * Gross income * Number of dependents * Adjusted income * Income tax |