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CSCI – 1500

HW 6

10/5/14

**Problem #1:**

Problem: Prompt the user to enter two integers. Compute the GCD (greatest common denominator) by passing the two integers through a loop using Euclid’s algorithm. Then return the GCD to the user.

Variable(s): num1 (int) => to store the first user entered number

num2 (int) => to store the second user entered number

larger (int) => store the larger of num\_1 and num\_2

smaller (int) => store the smaller of num\_1 and num\_2

gcd (int) => store the GCD of num\_1 and num\_2

remainder (int) => to store the remainder when dividing to find the gcd

Pseudocode: Prompt user for the first number

Store to num1

Prompt user for the second number

Store to num2

Find the larger of num1 and num2

Store to larger

Find the smaller of num1 and num2

Store to smaller

Create loop to pass larger and smaller through Euclid’s algorithm

Store larger%smaller to remainder

Display “[larger] / [smaller] = [larger/smaller] remainder [remainder]”

If smaller == 0

Store larger to gcd

Display “The GCD of [num1] and [num2] is [gcd]”

Break

If smaller != 0

Store smaller to larger

Store remainder to smaller

**Problem #2:**

Problem: Prompt the user to enter a series of numbers then press enter when finished. Once the user has finished entering number, find the sum and average and display the result to the user.

Variable(s): string (str) => to store the string of numbers input by the user.

nums (iter) => list of numbers converted to integers from string.

Pseudocode: Prompt user to enter a list of number separated by a space

Store input to string

Convert string to a list of integers, called nums

Display the sum of nums

Display the average of nums

**Problem #3:**

Problem: Create a program that prompts the user to enter the weight of a package, in ounces, then calculate the delivery charge. Once complete display the weight of the package in pounds and ounces. 16 oz = 1lb ; Delivery charge equals $3.50 + $0.50((w-13)//4)

Variable(s): weight (int) => stores weight if package in ounces.

charge (float) => stores calculate the delivery charge.

Pseudocode: Define function get\_weight to prompt user for the weight of the package and assign to variable.

Prompt user “Enter weight of the package in ounces: “

Store input to weight.

Pass weight through delivery\_charge function.

Define function delivery\_charge to use the weight in ounces to calculate the cost of delivery.

Assign charge = 3.50 + 0.50((weight-13)//4)

Pass weight and charge through display\_charge function.

Define function display\_charge to use weight and charge to display the calculated delivery cost and weight in pounds and ounces to the user.

Display “Package weight = [weight//16] lb. [weight%16] oz.”

Display “Delivery charge = $[charge]”

Define function main to initiate the program.

Call get\_weight function.