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COSC 251.001

9/16/2016

Dr. Rahman

Assignment 1

**Question 1:**

**Source Code:**

"""

Created on Sat Sep 10 15:51:19 2016

# Assignment 1 - Q1

@author: Jose Dixon

"""

x = int (input("Input the first number: "))

y = int (input("Input the second number: "))

total = x + y

diff = x - y

pro = x \* y

quot = x / y

avg = (x + y)/2

print "The sum is ", total

print "The difference is ", diff

print "The product is ", pro

print "The quotient is ", quot

print "The average is " , avg

print "The distance of is ", abs(diff)

print "The maximum value of the two numbers is ", max (x,y)

print "The minimum value of the two numbers is ", min (x,y)

**Output:**

Input the first number: 5

Input the second number: 6

The sum is 11

The difference is -1

The product is 30

The quotient is 0

The average is 5

The distance of is 1

The maximum value of the two numbers is 6

The minimum value of the two numbers is 5

**Question 2:**

**Source Code:**

"""

Created on Sat Sep 10 16:14:54 2016

# Assignment 1 - Question 2

# This program will calculate the income tax for

@author: Jose Dixon, Ariori Rukayat

"""

x = int(89000)

y = int(278000)

if x <= 50000:

income\_x = x \* 0.01

elif x <= 75000:

income\_x = x \* 0.02

elif x <= 100000:

income\_x = x \* 0.03

elif x <= 250000:

income\_x = x \* 0.04

elif x <= 500000:

income\_x = x \* 0.05

else:

income\_x = x \* 0.06

if y <= 50000:

income\_y = y \* 0.01

elif x <= 75000:

income\_y = y \* 0.02

elif x <= 100000:

income\_y = y \* 0.03

elif x <= 250000:

income\_x = y \* 0.04

elif x <= 500000:

income\_y = y \* 0.05

else:

income\_y = y \* 0.06

print "The income tax for $89,000 is $", income\_x

print "The income tax for $278,000 is $", income\_y

**Output:**

The income tax for $89,000 is $ 2670.0

The income tax for $278,000 is $ 8340.0

**Question 3:**

**Source Code:**

"""

Created on Sat Sep 10 18:09:58 2016

# Assignment 1 - Question 3

@author: Jose Dixon, Ariori Rukayat

"""

even\_total = 0

sqrt\_total = 0

pow\_total = 0

odd\_total = 0

odd\_digits = 0

for i in range (2, 101, 2):

even\_total += i

print "The sum of all of even numbers between 2 to 100 is ", even\_total

for j in range (1, 101):

sqrt\_total += j \* j

print "The sum of all numbers squared from 1 to 100 is ", sqrt\_total

for k in range (0, 21):

pow\_total += pow(2, k)

print "All powers of 2^0 to 2^20 is ", pow\_total

a = int(input("Input a as the lowest number: "))

b = int(input("Input b as the highest number: "))

for l in range (a, b, 1):

if l % 2 > 0:

odd\_total += l

print "The sum of odd numbers ranged from a to b ", odd\_total

c = int(input("Input a number to calculate the sum of odd digits: "))

while c > 0:

digits = c % 10

if digits % 2 != 0:

odd\_digits += digits

c /= 10

print "The sum of odd digits from number is: ", odd\_digits

**Output:**

The sum of all of even numbers between 2 to 100 is 2550

The sum of all numbers squared from 1 to 100 is 338350

All powers of 2^0 to 2^20 is 2097151

Input a as the lowest number: 10

Input b as the highest number: 20

The sum of odd numbers ranged from a to b 75

Input a number to calculate the sum of odd digits: 4560

The sum of odd digits from number is: 5