**Brandon Donato 9/24/15**

'''Donato,Brandon,bdonato1@binghamton.edu,CS 110, B57, Jia Yang,\

assignment3Ex1'''

def handshakes(people):

return (people \* (people - 1))//2

def handshakeLoop(people):

runningTotal = 0

for counter in range(1,people):

runningTotal = runningTotal + counter

return runningTotal

def compareInts(first,second):

return first==second

def main():

numPeople = input("How many people are there? ")

numPeople = int(numPeople)

print("There are",handshakes(numPeople),"handshakes.")

print("There are",handshakeLoop(numPeople),"handshakes.")

print("The formula and iteration methods compute %s" % \

("the same value" if compareInts(handshakes(numPeople),\

handshakeLoop(numPeople)) \

else "different values"))

main()

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'''Donato,Brandon,bdonato1@binghamton.edu,CS 110, B57, Jia Yang,\

assignment3Ex2'''

def allConnections(polygonSides):

runningTotal = 0

for counter in range(1,polygonSides):

runningTotal = runningTotal + counter

return runningTotal

def diagonalCalc(polygonSides):

diagonals = allConnections(polygonSides) - polygonSides

return diagonals

def main():

numSides = input("How many sides does the polygon have? ")

numSides = int(numSides)

print("The polygon has",diagonalCalc(numSides),"diagonals.")

main()

'''Donato,Brandon,bdonato1@binghamton.edu,CS 110, B57, Jia Yang,\

assignment3Ex3'''

import summations

def main():

numSides = input("How many sides does the polygon have? ")

numSides = int(numSides)

if numSides<=2:

print("You must choose an integer greater than 2")

else:

print("The polygon has",summations.diagonalCalc(numSides),"diagonals.")

main()

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'''Donato,Brandon,bdonato1@binghamton.edu,CS 110, B57, Jia Yang,\

assignment3Ex3'''

import summations

def main():

numPeople = input("How many people are there? ")

numPeople = int(numPeople)

print("There are",summations.handshakes(numPeople),"handshakes.")

print("There are",summations.handshakeLoop(numPeople),"handshakes.")

print("The formula and iteration methods compute %s" % \

("the same value" if summations.compareInts\

(summations.handshakes(numPeople), \

summations.handshakeLoop(numPeople)) \

else "different values"))

main()

'''Donato,Brandon,bdonato1@binghamton.edu,CS 110, B57, Jia Yang,\

assignment3Ex3'''

def handshakes(people):

return (people \* (people - 1))//2

def handshakeLoop(people):

runningTotal = 0

for counter in range(1,people):

runningTotal = runningTotal + counter

return runningTotal

def compareInts(first,second):

return first==second

def allConnections(polygonSides):

runningTotal = 0

for counter in range(1,polygonSides):

runningTotal = runningTotal + counter

return runningTotal

def diagonalCalc(polygonSides):

diagonals = allConnections(polygonSides) - polygonSides

return diagonals

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