'''

Keni Mou

kmou1@binghamton.edu

Assignment3, exercise1

A52

CA: Kyle Miller

'''

'''

Analysis:

count the number of handshake in the classroom

Output to monitor:

handShake1(Float)- number calculated by foluma

handShake2(Int) - number calculated by loop

resultChecker(Bool) - Whether two numbers are same

Input from keyboard

people(Int) - number of people in the classroom

Tasks allocated to Functions:

handShakeCount:

Calculate by fomula

handShakeLoop:

Calcutaed by loop

compare:

Check whether both results are same

'''

#Calculate by fomula

#param handShake(Int)- how many times handshake happens

def handShakeCount(peopleInt):

handShake=peopleInt\*(peopleInt-1)/2

return(handShake)

#Calculate by loop

def handShakeLoop(peopleInt):

handShake=0 #initial condition

for i in range(peopleInt): #for every additional people in the classroom,

handShake=handShake+i # there will be n-1 handshakes more

return handShake

#Compare the two results

def compare(value1,value2):

if value1==value2:

return True

else:

return False

#input number of people and calculate the handshake

#param people(Str) - how many people are there in the classroom

#param peopleInt(Int) - how many people are there in the classroom

#param handShake1(float) - the number calculated by the fomula

#param handShake2(int) - the number calculated by the loop

def main():

#Get input

people=input("how many people are there in the classroom? Please input an integer number greater than 1!")

#Change the type

peopleInt=int(people)

#Calculate

handShake1=handShakeCount(peopleInt)

handShake2=handShakeLoop(peopleInt)

#Compare the results

resultChecker = compare(handShake1, handShake2)

#output

print("There will be", handShake1, "hand shakes") #debug

print("There will be", handShake2, "hand shakes") #debug

print (resultChecker)

main()

Python 3.3.3 (v3.3.3:c3896275c0f6, Nov 18 2013, 21:19:30) [MSC v.1600 64 bit (AMD64)] on win32

Type "copyright", "credits" or "license()" for more information.

>>> ================================ RESTART ================================

>>>

how many people are there in the classroom? Please input a integer number greater than 1!10

There will be 45.0 hand shakes

There will be 45 hand shakes

True

>>> ================================ RESTART ================================

>>>

how many people are there in the classroom? Please input a integer number greater than 1!60

There will be 1770.0 hand shakes

There will be 1770 hand shakes

True

>>> ================================ RESTART ================================

>>>

how many people are there in the classroom? Please input a integer number greater than 1!200

There will be 19900.0 hand shakes

There will be 19900 hand shakes

True

>>> ================================ RESTART ================================

>>>

how many people are there in the classroom? Please input a integer number greater than 1!2.5

Traceback (most recent call last):

File "E:\Google Drive\CS110\Mou\_Keni\_A52\_Assignment3\#1. HandShake.py", line 73, in <module>

main()

File "E:\Google Drive\CS110\Mou\_Keni\_A52\_Assignment3\#1. HandShake.py", line 59, in main

peopleInt=int(people)

ValueError: invalid literal for int() with base 10: '2.5'

>>> ================================ RESTART ================================

>>>

how many people are there in the classroom? Please input a integer number greater than 1!hkjh

Traceback (most recent call last):

File "E:\Google Drive\CS110\Mou\_Keni\_A52\_Assignment3\#1. HandShake.py", line 73, in <module>

main()

File "E:\Google Drive\CS110\Mou\_Keni\_A52\_Assignment3\#1. HandShake.py", line 59, in main

peopleInt=int(people)

ValueError: invalid literal for int() with base 10: 'hkjh'

>>> ================================ RESTART ================================

>>>

how many people are there in the classroom? Please input a integer number greater than 1!56564j

Traceback (most recent call last):

File "E:\Google Drive\CS110\Mou\_Keni\_A52\_Assignment3\#1. HandShake.py", line 73, in <module>

main()

File "E:\Google Drive\CS110\Mou\_Keni\_A52\_Assignment3\#1. HandShake.py", line 59, in main

peopleInt=int(people)

ValueError: invalid literal for int() with base 10: '56564j'

>>> ================================ RESTART ================================

>>>

how many people are there in the classroom? Please input a integer number greater than 1!0

There will be 0.0 hand shakes

There will be 0 hand shakes

True

>>> ================================ RESTART ================================

>>>

how many people are there in the classroom? Please input a integer number greater than 1!1

There will be 0.0 hand shakes

There will be 0 hand shakes

True

>>> ================================ RESTART ================================

>>>

how many people are there in the classroom? Please input a integer number greater than 1!2

There will be 1.0 hand shakes

There will be 1 hand shakes

True

>>>

'''

Keni Mou

kmou1@binghamton.edu

Assignment3, exercise2

A52

CA: Kyle Miller

'''

'''

Analysis:

count the number of diagonals of a polygon

Output to monitor:

diagonals1(flaot) - diagonals calculated by fomula

diagonals2(Int) - calculated by loop method 1: calculated all the connections and subtract sides number

diagonals3(int) - calculated by loop method 2. easier way than method 1

resultChecker(Bool) - Whether 3 numbers are same

Input from keyborad

sides(str) - sides of the polygon

Tasks allocated to Functions:

diagonalCount:

diagonals calculated by fomula

diagonalSub:

Calcutaed by loop method 1

calculated all the connections and subtract sides number

diagonalLoop:

calculated by loop method 2. easier way than method 1

compare:

Check whether the results are same

'''

#Calculate by fomula

#param diagonals(float) - the number of diagonals

def diagonalCount(sidesInt):

diagonals=sidesInt\*(sidesInt-3)/2

return(diagonals)

#Calculate by loop (method 1, salculated all the connections and subtract sides number)

#param diagonals(int)- the number of diagonals

#param totalConnections(int) - the number of total connections in the polygon

#param diagonals(int)-the number of diagonals

def diagonalSub(sidesInt):

totalConnections = 0 #initial condition

for i in range (sidesInt):

totalConnections= totalConnections + i

diagonals=totalConnections-sidesInt

return diagonals

#Calculate by loop (method 2)

def diagonalLoop(sidesInt):

diagonals= 0 #initial condition

for i in range(sidesInt): #for every additional side in the polygon,

diagonals=diagonals+i-1 # there will be n-2 diagonals more

return (diagonals)

#Compare the results

def compare(value1,value2,value3):

if value1==value2 and value1 == value3:

return True

else:

return False

#input number of sides and calculate the diagonals

#param sides(Str) - how many sides are there in the polygon

#param sidesInt(Int) - how many sides are there in the polygon

#param diagonals1(flaot) - diagonals calculated by fomula

#param diagonals2(Int) - calculated by loop method 1: calculated all the connections and subtract sides number

#param diagonals3(int) - calculated by loop method 2. easier way than method 1

def main():

#Get input

sides=input("How many sides are there in the polygon? Please input an integer number greater than 3.")

#Change the type

sidesInt=int(sides)

#Calculate

diagonals1=diagonalCount(sidesInt)

diagonals2=diagonalLoop(sidesInt)

diagonals3=diagonalSub(sidesInt)

#Compare the results

resultChecker = compare(diagonals1, diagonals2, diagonals3)

#output

print("There will be", diagonals1, "diagonals") #debug

print("There will be", diagonals2, "diagonals") #debug

print("There will be", diagonals3, "diagonals") #debug

print (resultChecker)

main()

Python 3.3.3 (v3.3.3:c3896275c0f6, Nov 18 2013, 21:19:30) [MSC v.1600 64 bit (AMD64)] on win32

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>>> ================================ RESTART ================================

>>>

How many sides are there in the polygon? Please input a integer number greater than 3.56

There will be 1484.0 diagonals

There will be 1484 diagonals

There will be 1484 diagonals

True

>>> ================================ RESTART ================================

>>>

How many sides are there in the polygon? Please input a integer number greater than 3.4569

There will be 10431027.0 diagonals

There will be 10431027 diagonals

There will be 10431027 diagonals

True

>>> ================================ RESTART ================================

>>>

How many sides are there in the polygon? Please input a integer number greater than 3.llll

Traceback (most recent call last):

File "E:\Google Drive\CS110\Mou\_Keni\_A52\_Assignment3\#2. Diagnals of polygon.py", line 91, in <module>

main()

File "E:\Google Drive\CS110\Mou\_Keni\_A52\_Assignment3\#2. Diagnals of polygon.py", line 75, in main

sidesInt=int(sides)

ValueError: invalid literal for int() with base 10: 'llll'

>>> ================================ RESTART ================================

>>>

How many sides are there in the polygon? Please input a integer number greater than 3.woth34

Traceback (most recent call last):

File "E:\Google Drive\CS110\Mou\_Keni\_A52\_Assignment3\#2. Diagnals of polygon.py", line 91, in <module>

main()

File "E:\Google Drive\CS110\Mou\_Keni\_A52\_Assignment3\#2. Diagnals of polygon.py", line 75, in main

sidesInt=int(sides)

ValueError: invalid literal for int() with base 10: 'woth34'

>>> ================================ RESTART ================================

>>>

How many sides are there in the polygon? Please input a integer number greater than 3.123456

There will be 7620506784.0 diagonals

There will be 7620506784 diagonals

There will be 7620506784 diagonals

True

>>> ================================ RESTART ================================

>>>

How many sides are there in the polygon? Please input a integer number greater than 3.2

There will be -1.0 diagonals

There will be -1 diagonals

There will be -1 diagonals

True

>>> ================================ RESTART ================================

>>>

How many sides are there in the polygon? Please input a integer number greater than 3.k56

Traceback (most recent call last):

File "E:\Google Drive\CS110\Mou\_Keni\_A52\_Assignment3\#2. Diagnals of polygon.py", line 91, in <module>

main()

File "E:\Google Drive\CS110\Mou\_Keni\_A52\_Assignment3\#2. Diagnals of polygon.py", line 75, in main

sidesInt=int(sides)

ValueError: invalid literal for int() with base 10: 'k56'

'''

Keni Mou

kmou1@binghamton.edu

Assignment3, exercise3

A52

CA: Kyle Miller

'''

'''

This is the module

'''

'''

Tasks allocated to Functions:

diagonalCount:

diagonals calculated by fomula

diagonalSub:

Calcutaed by loop method 1

calculated all the connections and subtract sides number

diagonalLoop:

calculated by loop method 2. easier way than method 1

compare:

Check whether the results are same

handShakeCount:

Calculate by fomula

handShakeLoop:

Calcutaed by loop

compare:

Check whether both results are same

'''

'''

diagonals part

'''

#Calculate by fomula

#param diagonals(float) - the number of diagonals

def diagonalCount(sidesInt):

diagonals=sidesInt\*(sidesInt-3)/2

return(diagonals)

#Calculate by loop (method 1, salculated all the connections and subtract sides number)

#param diagonals(int)- the number of diagonals

#param totalConnections(int) - the number of total connections in the polygon

#param diagonals(int)-the number of diagonals

def diagonalSub(sidesInt):

totalConnections = 0 #initial condition

for i in range (sidesInt):

totalConnections= totalConnections + i

diagonals=totalConnections-sidesInt

return diagonals

#Calculate by loop (method 2)

def diagonalLoop(sidesInt):

diagonals= 0 #initial condition

for i in range(sidesInt): #for every additional side in the polygon,

diagonals=diagonals+i-1 # there will be n-2 diagonals more

return (diagonals)

#Compare the results

def compare(value1,value2,value3):

if value1==value2 and value1 == value3:

return True

else:

return False

'''

hand shake part

'''

#Calculate by fomula

#param handShake(Int)- how many times handshake happens

def handShakeCount(peopleInt):

handShake=peopleInt\*(peopleInt-1)/2

return(handShake)

#Calculate by loop

def handShakeLoop(peopleInt):

handShake=0 #initial condition

for i in range(peopleInt): #for every additional people in the classroom,

handShake=handShake+i # there will be n-1 handshakes more

return handShake

#Compare the two results

def compare(value1,value2):

if value1==value2:

return True

else:

return False

'''

Keni Mou

kmou1@binghamton.edu

Assignment3, exercise3

A52

CA: Kyle Miller

'''

'’’

this is the main() of #1

Analysis:

count the number of handshake in the classroom

Output to monitor:

handShake1(Float)- number calculated by foluma

handShake2(Int) - number calculated by loop

resultChecker(Bool) - Whether two numbers are same

Input from keyborad

people(Int) - number of people in the classroom

'''

import summations

#input number of people and calculate the handshake

#param people(Str) - how many people are there in the classroom

#param peopleInt(Int) - how many people are there in the classroom

#param handShake1(float) - the number calculated by the fomula

#param handShake2(int) - the number calculated by the loop

def main():

#Get input

people=input("how many people are there in the classroom? Please input a integer number greater than 1!")

#Change the type

peopleInt=int(people)

#Calculate

handShake1=summations.handShakeCount(peopleInt)

handShake2=summations.handShakeLoop(peopleInt)

#Compare the results

resultChecker = summations.compare(handShake1, handShake2)

#output

print("There will be", handShake1, "hand shakes") #debug

print("There will be", handShake2, "hand shakes") #debug

print (resultChecker)

main()

Python 3.3.3 (v3.3.3:c3896275c0f6, Nov 18 2013, 21:19:30) [MSC v.1600 64 bit (AMD64)] on win32

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>>> ================================ RESTART ================================

>>>

how many people are there in the classroom? Please input a integer number greater than 1!56

There will be 1540.0 hand shakes

There will be 1540 hand shakes

True

>>> ================================ RESTART ================================

>>>

how many people are there in the classroom? Please input a integer number greater than 1!df

Traceback (most recent call last):

File "E:\Google Drive\CS110\Mou\_Keni\_A52\_Assignment3\#3. Summation\_handshake.py", line 46, in <module>

main()

File "E:\Google Drive\CS110\Mou\_Keni\_A52\_Assignment3\#3. Summation\_handshake.py", line 32, in main

peopleInt=int(people)

ValueError: invalid literal for int() with base 10: 'df'

>>> ================================ RESTART ================================

>>>

how many people are there in the classroom? Please input a integer number greater than 1!lldkf

Traceback (most recent call last):

File "E:\Google Drive\CS110\Mou\_Keni\_A52\_Assignment3\#3. Summation\_handshake.py", line 46, in <module>

main()

File "E:\Google Drive\CS110\Mou\_Keni\_A52\_Assignment3\#3. Summation\_handshake.py", line 32, in main

peopleInt=int(people)

ValueError: invalid literal for int() with base 10: 'lldkf'

>>> ================================ RESTART ================================

>>>

how many people are there in the classroom? Please input a integer number greater than 1!3

There will be 3.0 hand shakes

There will be 3 hand shakes

True

>>> ================================ RESTART ================================

>>>

how many people are there in the classroom? Please input a integer number greater than 1!1

There will be 0.0 hand shakes

There will be 0 hand shakes

True

'''

Keni Mou

kmou1@binghamton.edu

Assignment3, exercise3

A52

CA: Kyle Miller

'''

'''

this is the main() of #2

Analysis:

count the number of diagonals of a polygon

Output to monitor:

diagonals1(flaot) - diagonals calculated by fomula

diagonals2(Int) - calculated by loop method 1: calculated all the connections and subtract sides number

diagonals3(int) - calculated by loop method 2. easier way than method 1

resultChecker(Bool) - Whether 3 numbers are same

Input from keyborad

sides(str) - sides of the polygon

'''

import summations

def main():

#Get input

sides=input("How many sides are there in the polygon? Please input a integer number greater than 3.")

#Change the type

sidesInt=int(sides)

#Calculate

diagonals1=summations.diagonalCount(sidesInt)

diagonals2=summations.diagonalLoop(sidesInt)

diagonals3=summations.diagonalSub(sidesInt)

#Compare the results

resultChecker = summations.compare(diagonals1, diagonals2, diagonals3)

#output

print("There will be", diagonals1, "diagonals") #debug

print("There will be", diagonals2, "diagonals") #debug

print("There will be", diagonals3, "diagonals") #debug

print (resultChecker)

main()

Python 3.3.3 (v3.3.3:c3896275c0f6, Nov 18 2013, 21:19:30) [MSC v.1600 64 bit (AMD64)] on win32

Type "copyright", "credits" or "license()" for more information.

>>> ================================ RESTART ================================

>>>

How many sides are there in the polygon? Please input a integer number greater than 3.6

There will be 9.0 diagonals

There will be 9 diagonals

There will be 9 diagonals

True

>>> ================================ RESTART ================================

>>>

How many sides are there in the polygon? Please input a integer number greater than 3.465

There will be 107415.0 diagonals

There will be 107415 diagonals

There will be 107415 diagonals

True

>>> ================================ RESTART ================================

>>>

How many sides are there in the polygon? Please input a integer number greater than 3.jjj

Traceback (most recent call last):

File "E:\Google Drive\CS110\Mou\_Keni\_A52\_Assignment3\#2.test.py", line 62, in <module>

main()

File "E:\Google Drive\CS110\Mou\_Keni\_A52\_Assignment3\#2.test.py", line 46, in main

sidesInt=int(sides)

ValueError: invalid literal for int() with base 10: 'jjj'

>>> ================================ RESTART ================================

>>>

How many sides are there in the polygon? Please input a integer number greater than 3.0

There will be 0.0 diagonals

There will be 0 diagonals

There will be 0 diagonals

True

>>> ================================ RESTART ================================

>>>

How many sides are there in the polygon? Please input a integer number greater than 3.l2

Traceback (most recent call last):

File "E:\Google Drive\CS110\Mou\_Keni\_A52\_Assignment3\#2.test.py", line 62, in <module>

main()

File "E:\Google Drive\CS110\Mou\_Keni\_A52\_Assignment3\#2.test.py", line 46, in main

sidesInt=int(sides)

ValueError: invalid literal for int() with base 10: 'l2'

>>> ================================ RESTART ================================

>>>

How many sides are there in the polygon? Please input a integer number greater than 3.45

There will be 945.0 diagonals

There will be 945 diagonals

There will be 945 diagonals

True