#Initialization of a counter variable

count = 0

#Specify Condition

while (count < 5):

##Do something: Action

print("Hello World")

#Increment the counter

count = countt

##Another example with else

y = 0

while y < 10:

print('y is currently: ',y)

print(' y is still less than 10, adding 1 to y')

#Alternate method of incrementing

y+=1

else:

print('All Done!')

##Bacteria Growth Rate

#Initialization

time=0

#Given

population = 1000

growth\_rate= 0.21

while population < 2000:

population = population + growth\_rate\*population

print(population)

time=time+1

print('For the population to double it takes ',time, 'minutes')

print('Final population is ', population)

##Continue statement

y = 0

while y < 5:

print('y is currently: ',y)

print(' y is still less than 5, adding 1 to y')

y+=1

if y==3:

print('y==3')

else:

print('continuing...')

continue

##Break statement

y = 0

while y < 5:

print('y is currently: ',y)

print(' y is still less than 5, adding 1 to y')

y+=1

if y==3:

print('Breaking because y==3')

break

else:

print('continuing...')

continue

##More examples

##Problem 1a

count=0

while True:

count+=1

if count>5:

break

print (count)

##Problem 1b

count=0

while count<10:

count+=1

if count%2 ==0:

continue

print (count)

##Census

census = [ 340, 589, 959, 1372, 1918, 2428, 3097, 3880, 4382, 5082, \

5997, 7268, 9113, 10385, 12588, 13479, 14830, 16782, \

8236, 17558, 17990, 18976, 19378 ]

sum\_change = 0

i = 1

while i<len(census):

pct = (census[i] - census[i-1]) / census[i-1] \* 100

sum\_change += pct

i += 1

print("Average = {:.1f}%".format( sum\_change/(len(census)-1)))

##Nested While

L = [2, 21, 12, 8, 5, 31]

i = 0

while i < len(L):

j = 0

while j < len(L):

print(L[i], L[j])

j += 1

i += 1

##Problem 1

l=[1,2,3,4,5,6,7,8,9,10,13,17]

i=0

even=0

odd=0

while i<len(l):

if l[i] %2==0:

even+=1

else:

odd+=1

i+=1

print ('Even = ', even)

print ('Odd = ', odd)

#Demonstrate range function

##Problem 2

n1=[]

x=1500

while x in range(1500,2700):

if (x%7==0) and (x%5==0):

n1.append(str(x))

x+=1

print (n1)

##Demonstrate end

print('My ')

print('Name ')

print('My ', end="")

print('Name ', end="")

##The star problem

##First Half

i=0

while i<5:

j=0

while j<=i:

j+=1

##Don't let the line end until all stars printed

print ('\* ', end="")

i+=1

print('')

#Second Half

i=i-1

while i>0:

j=0

while j<i:

print ('\* ', end="")

j+=1

i-=1

print('')