def happy():

import math

print("This programme will prompt you to enter a positive integer.")

print("The progamme will then begin going step by step checking to see if the number is happy or not.")

chck = eval(input("Please enter the number you wish to check. "))

num\_lst=[]

temp=chck

a=0

acc=0

flag=True

print("This is the number we are using to begin the checks ",temp)

while flag:

length=math.floor(math.log10(temp))+1

if length == 1:

num\_lst.append(temp)

for j in range(length, 1 , -1):

a = temp//10\*\*(j-1)

num\_lst.append(a)

temp=temp-a\*10\*\*(j-1)

if temp < 10:

num\_lst.append(temp)

for j in range(len(num\_lst)):

acc = acc + num\_lst[j]\*\*2

print("This is the the result of the iteration ",acc)

input("Press enter to see the next step")

if acc ==1:

flag = False

print(i," is a Happy Number")

if acc == 4:

flag=False

print(chck, " is not a Happy Number!")

temp=acc

acc=0

del num\_lst[0:len(num\_lst)]

input("Press enter to exit the programme.")

happy()