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()