In [49]:
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#1. Python Program to check Armstrong Number?
#HINT : 153 = 1*1*1 + 5*5*5 + 3*3*3  // 153 is an Armstrong number.

# An Armstrong number is a number which is equal to the sum of cubes of its digits.

sum = 0
# Step1 : Read the number
number = int(input("Enter a number: "))

# Step2: Now calculate the sum of the cube of each digit in the number read in Step1
t = number
while t > 0:
   digit = t % 10
   sum += digit ** 3
   t //= 10

# Step3: Print the message whether the number read in Step1 is an armstrong number or not
if number == sum:
   print(number,"is an Armstrong number")
else:
   print(number,"is not an Armstrong number")
```

```
Enter a number: 153
153 is an Armstrong number
```

In [52]:
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# Python Program for How to check if a given number is Fibonacci number?

# Step1 : A number,say n, is fibonacci if one or both of 5(n*n)+4 or 5(n*n)-4 is a perfect square.
# Step2 : Get the number through input, say n.
# Step3 : Calculate the values of 5(n*n)+4 or 5(n*n)-4 for the given number n.
# Step4 : Define a function to check whether the number is a perfect square or not. We will use the built-in fu
#         available in the math module


from math import sqrt

def isPerfectSquare(x):
    s = int(sqrt(x))
    return s * s == x

# Step1 : Read the number
n = int(input("Enter a number: "))

# Step2 :
value1 = 5 * (n * n) + 4
value2 = 5 * (n * n) - 4

if(isPerfectSquare(value1)):
   print ("The entered number is a fibonacci number.")
elif(isPerfectSquare(value2)):
   print ("The entered number is a fibonacci number.")
else:
   print ("The entered number is not a fibonacci number.")
```

```
Enter a number: 89
The entered number is a fibonacci number.
```

In [ ]:

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