

Loop in Python

1. Write a Program to check two given numbers are amicable number or not.
[Hint – Sum of One number's factors is the other number. Example-220,284]
2. Write a Program to check a given number is happy number or not.
[Hint – Sum of the square of the digits of a number and continuing the sum with the same process until it gives a single digit. If the single digit is 1 then it is a Happy number. Example – 19 ($1^2 + 9^2 = 82$, $8^2 + 2^2 = 68$, $6^2 + 8^2 = 100$, $1^2 + 0^2 + 0^2 = 1$)]
3. Write a Program to check a given number is Harshid Number or not.
[Hint – If the sum of the digits of a number divides the original number. Example – 171 ($1+7+1=9$, $171\%9=0$)]
4. Write a Program to check a given number is pronic number or not.
[Hint – A pronic number is that number which is the product of two consecutive numbers. Example – 2,6,12,20....]
5. Write a Program to check a given number is Automorphic number or not.
[Hint – $25^2 = 625$ therefore 25 is again coming so it is Automorphic]
6. Write a Program to check a given number is a perfect cube or not.
[Hint – 27 is a perfect cube as 3^3 is 27]
7. Write a Program to print the Pell Series upto n number of terms where n is taken as input.
[Hint – Pell Series is 0, 1, 2($2 \times 1 + 0$), 5($2 \times 2 + 1$), 12($2 \times 5 + 2$),]
8. Write a Program to check a given number is Armstrong Number or not.
[Hint – $153 = 1^3 + 5^3 + 3^3$]
9. Write a Program to check a given number is Hamming Number or not.
[Hint – The numbers whose only prime factors are 2,3 & 5 is a Hamming number]
10. Write a program to print a given number is Twisted Prime Number or not.
[Hint – 13 is prime & 31 is also prime]