Harshad Numbers:

A **Harshad number** (also known as a **Niven number**) is a number that is **divisible by the sum of its digits**. The term **Harshad** is derived from the Sanskrit words "Har" (joy) and "Shad" (give), meaning "giver of joy.

- **18** → Sum of digits = **1 + 8 = 9** → **18 is divisible by 9**
- **21** → Sum of digits = **2 + 1 = 3** → **21 is divisible by 3**
- **19** → Sum of digits = **1 + 9 = 10** → **19 is NOT divisible by 10**

Anagrams Number:

An **anagram** is a word or phrase formed by rearranging the letters of another word or phrase, using all the original letters exactly once

- **"listen" → "silent"**
- **"race" → "care"**
- **"evil" → "vile"**
- **"dormitory" → "dirty room"** (ignoring spaces)

Neon Number:

A **Neon Number** is a number where the sum of the digits of its square is equal to the original number.

- **9** → Square = **9 × 9 = 81**
  - Sum of digits of 81 → **8 + 1 = 9**
- **12** → Square = **12 × 12 = 144**
  - Sum of digits of 144 → **1 + 4 + 4 = 9**

Peterson Numbers:

A **Peterson number** is a number where the sum of the factorials of its digits equals the number itself.

1. **145**
   - Digits: **1, 4, 5**
   - Factorial Sum: **1! + 4! + 5! = 1 + 24 + 120 = 145**
2. **Other Peterson Numbers**: **1, 2, 145** (There are very few!)

Spy Numbers

A **Spy Number** is a number where the **sum of its digits** is equal to the **product of its digits**

1. **112**
    - Digits: **1, 1, 2**
    - Sum = **1 + 1 + 2 = 4**
    - Product = **1 × 1 × 2 = 4**
2. **123**
    - Digits: **1, 2, 3**
    - Sum = **1 + 2 + 3 = 6**
    - Product = **1 × 2 × 3 = 6**

Sunny number

A *sunny number* is a number that is one less than a perfect square. In other words, a number N is sunny if there exists an integer n such that:

$N+1=n^2$

For example:

- 3 is a sunny number because 3+1=4, and 4 is a perfect square (since 2^2=4).
- 8 is another sunny number because 8+1=9, and 9 is a perfect square (since 3^2 = 9)

Python Practice question as per the interview requirement

1. Write a program to check if a given number is an **Armstrong** number.
2. Write a program to check if the given string is a **palindrome**.
3. Write a program to get the **Fibonacci series**.
4. Write a program to find the **factorial** of a given number.
5. Write a program to find how many **vowels and consonants** are present in strings.
6. Write a program to create **calculator** through functions.
7. Write a program to check given year is **leep year or not**.
8. Write a program to check if the given strings are **anagram or not**.
9. Write a program to check given number is **Harshad number/ Niven number** or not. 10. Write a program to check given number is **neon number** or not
11. Write a program to check given number is **Peterson number or not.**
12. Write a program to check given number is **spy no or not**
13. Write a program to check given number is **sunny no or not**.