Set A

1. Write a program to find Single number from the given array
   1.1. Examples:

        Input: nums = [2,2,3,2]
        Output: 3

        Input: nums = [0,1,0,1,0,1,99]
        Output: 99

2. Draw the below pattern with dynamic input rows (the below example is when input is 5):

```
        1
      1 2 1
    1 2 3 2 1
  1 2 3 4 3 2 1
    1 2 3 2 1
      1 2 1
        1
```

3. Write a program to find if a given number is a **Happy Number** or not.
   3.1. **Happy Number:** A number is called happy if it leads to 1 after a sequence of steps wherein each step number is replaced by the sum of squares of its digit, that is if we start with Happy Number and keep replacing it with digits square sum, we reach 1.
   3.2. Example of Happy Numbers:
      3.2.1. 1, 7, 10, 13, 19, 23, 28, 31, 32, 44, 49, 68, 70, 79, 82, 86, 91, 94, 97, 100

        User Input: n = 19
        Output: True
        19 is Happy Number,
        1^2 + 9^2 = 82
        8^2 + 2^2 = 68
        6^2 + 8^2 = 100
        1^2 + 0^2 + 0^2 = 1
        As we reached 1, 19 is a Happy Number.
        Input: n = 20
        Output: False

4. Write a program for Fibonacci Series till particular length?
   Eg: Length: 6, Output: 1,1,2,3,5,8

Instructions (Read Carefully): -

1. Time Duration: **3 hours.**
2. Write Programs in a dynamic and interactive way and use OOPs wherever necessary.
3. All the inputs must be taken from the User and it should be dynamic. Do not use static input/values.
4. You do not have permission to access Google.
5. You don't have permission to access Social Networking sites.
6. You can't download anything and can't copy-paste code.
7. You can't use ChatGPT.
8. Keep your phone on silent and in your bag.