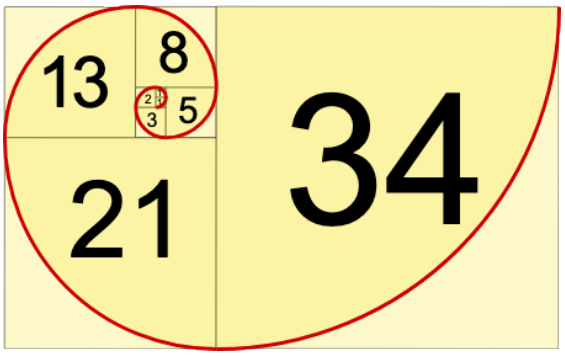
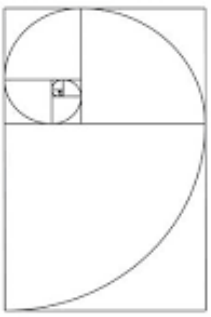
Homework – Task 1

- We have learnt Fibonacci sequence in the class. You were given a positive integer and were asked to print out the Fibonacci sequence.
- Now you are asked to input a number `length` from the keyboard and print a Fibonacci sequence of that length.
  - Remember the input function?
- Users might make mistakes when entering the number `length`. They might enter
  - not a number, like 'ten'
  - a decimal number, like 3.4
  - a negative number, like -9
  - zero
- Even if a user enters a positive integer, you still need to take care about the special case(s)
  - 1
  - 2
- Improve your program by being able to deal with all these user inputs.
- Hints:
  - length = int(input("Please enter the length of the sequence"))
  - Check whether the number is negative or zero
  - If the length is 1, just print out 1
  - If the length is 2, think about whether you can use the original program in the class
  - Use if...elif...else wisely.



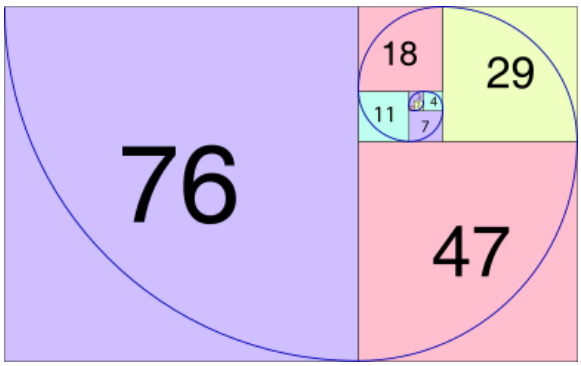


Task 2

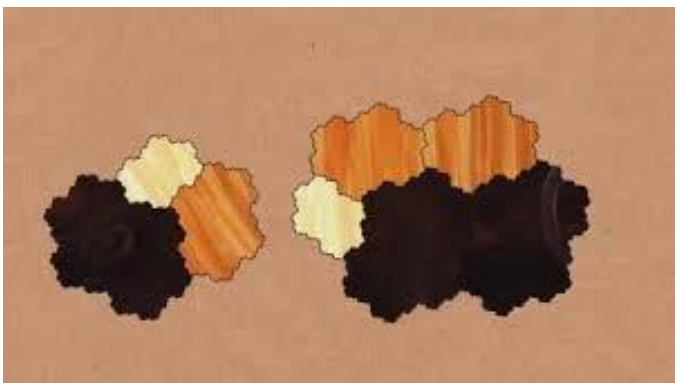
- Now we have another sequence, called Lucas numbers. They are like this:

  2, 1, 3, 4, 7, 11, 18, 29, 47, 76, 123, ...

  Modify your program to generate this sequence.



- There is also something called **tribonacci numbers**
  - 0, 0, 1, 1, 2, 4, 7, 13, _____, _____, _____, _____,
  - Write down the next four numbers in this sequence
  - Modify your program to generate the first 20 Tribonacci numbers.



Google *Rauzy Fractal tribonacci* if you want to know more