All Prime Numbers

Problem Description: You are given an input integer N, and you have to print all the prime numbers between 2 to N (both inclusive) in different lines.
For example, if the given number is 7, then the prime numbers between 2 to 7 will be 2,3,5 and 7 which must be printed in different lines in the output.

How to approach?

1. Take the number as input from the user.
2. Now, initialize a loop from i=2 to n, and for each i check whether it is prime or not, initially take isPrime (to denote whether a number is prime or not) as true which means we are assuming that the number is prime, initially.
3. Now, for each i we create another loop in this to check if that number is prime or not. If it is not prime then make isPrime as false and continue to next i otherwise if isPrime remains true, then print it.

Pseudo Code for this problem:

```
Input = N
For i=2 to i less than equal to N:
        isPrime=true
       For j=2 to i less than i:
              If i%j=0:
                 isPrime=false
                Break (to move out of inner loop)
    If (isPrime= true):
              Print (i) in new line
```

- ❏ Let us dry run the code:
  N=7
  - i=2
    isPrime=true
    ➔ j=2, move out of the inner loop
    Print 2.
  - i=3

isPrime=true

➔ j=2, 3%2!=0

➔ j=3, move out of the loop

Print 3.

- i=4

  isPrime=true

  ➔ j=2, 4%2=0, so isPrime=false and move out of the inner loop

  So, don't print anything here.

- i=5

  isPrime=true

  ➔ j=2, 5%2!=0

  ➔ j=3, 5%3!=0

  ➔ j=4, 5%4!=0

  Print 5.

- i=6

  isPrime=true

  ➔ j=2, 6%2=0, isPrime=false, move out of the loop

  So, move out the inner loop.

- i=7

  isPrime=true.

  ➔ j=2, 7%2!=0.

  ➔ j=3, 7%3!=0

  ➔ j=4, 7%4!=0

  ➔ j=5, 7%5!=0

  ➔ j=6, 7%6!=0

  Print 7.

Final output:

2

3

5

7