S.No: 2	Exp. Name: ***Prime numbers from 2 to the given positive number***	Date:2024-08-08

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Aim:

Implement a program that takes an integer n input from the user and prints all the prime numbers from 2 to n.

Note: A prime number is divisible only by 1 and itself.

Input format:

- The input contains a positive integer n.

Output Format:

- Contains the list of prime numbers up to n

Example:
Input:
10
Output:
[2, 3, 5, 7]

Constraints:

- The input n should be a positive integer greater than or equal to 2.
- The algorithm should be efficient, aiming for a time complexity of approximately $O(n * sqrt(n))$ where n is the input number.
- The algorithm should handle large inputs reasonably well, without consuming excessive memory or taking an unreasonable amount of time to execute.

Source Code:

CTP32252.py

```
a=int(input())
list=[]
for i in range(2,a,1):
   for j in range(2,i,1):
      if i%j==0:
         break
   else:
      list.append(i)
print(list)
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
10
[2, 3, 5, 7]

Test Case - 2
User Output
20

[2, 3, 5, 7, 11, 13, 17, 19]

Test Case - 3
User Output
30
[2, 3, 5, 7, 11, 13, 17, 19, 23, 29]