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"""
Série 1
Groupe : SM1
date : 04-09-2023
"""
# Ex 1
## Q1
def init(L):
   L = []
   for i in range(100):
       L.append(1)
   return L
## Q2
def multiple(L,i):
   for j in range(i+1, len(L)):
       if j % i == 0:
           L[j] = 0
## Q3
def suivant(L,i):
   j = i + 1
   while L[j]== 0:
       j += 1
   return j
   # return L.index(1,i+1)

## Q4
def crible(L):
   L= init(L)
   i= 2
   from math import sqrt
   while i <= int(sqrt(len(L))):
       multiple(L,i)
       i = suivant(L,i)

   p = [i for i in range(2,len(L)) if L[i]==1]
   return p
## Q5
from math import sqrt
def crible_rec(L,i):

   if i <= int(sqrt(len(L))):
       multiple(L,i)
       i = suivant(L,i)
       return crible_rec(L,i)
   else:
       p = [i for i in range(2,len(L)) if L[i]==1]
       return p

## prog principal
L = []
L= init(L)
p=crible_rec(L,2)
print(p)
```