PYTHON PROGRAMMING

ASSIGNMENT(PYTHAGORAS)

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Problem Statement:

Peter wants to generate some prime numbers for his cryptosystem. Help him! Your task is to

generate all prime numbers between two given numbers!

Input Format:

The input begins with the number t of test cases in a single line (t<=10). In each of the next

t lines, there are two numbers m and n separated by a space.

Constraints:

1 <= m <= n <= 1000000000 n-m<=100000

Output Format:

For every test case print all prime numbers p such that m <= p <= n, all primes per line, test cases separated by an empty lines.

Program Code and Output:

In [1]:

def generate\_primes(m, n):

prime = [True for i in range(n+1)]

prime[0] = False

prime[1] = False

p = 2

while (p\*p <= n):

if (prime[p] == True):

for i in range(p\*p, n+1, p):

prime[i] = False

p += 1

prime\_list = []

for i in range(m, n+1):

if (prime[i] == True):

prime\_list.append(i)

return prime\_list

In [2]:

def io\_format():

t = int(input())

m = []

n = []

for i in range(t):

\_m, \_n = str(input()).split()

m.append(int(\_m))

n.append(int(\_n))

for i in range(t):

print('\n')

primes = generate\_primes(m, n)

[print(prime, end=' ') for prime in primes]

In [3]:

io\_format()

3

1 10

45 90

100 175

2 3 5 7

47 53 59 61 67 71 73 79 83 89

101 103 107 109 113 127 131 137 139 149 151 157 163 167 173

In [ ] :