

Question 1

Correct

Marked out of 10.00

A semiprime number is a natural number that is the product of two (not necessarily distinct) primes.

For example:

Input:

57

Output:

true

57 is a semiprime number because it is the product of two primes, $57 = 3 * 19$

Input:

121

Output:

true

(121 is a semiprime number because it is the product of two primes, $121 = 11 * 11$)

Input:

186

Output:

false

(186 is not a semiprime number because it is the product of three primes: $186 = 2 * 3 * 31$)

Write a program to generate all the semiprimes upto a given number(inclusive).

Input Format

- The first line contains an integer, t denoting the number of test cases.
- The first line of each test case contains an integer, n which represents the upper bound to generate semi primes.

Constraints

$1 \leq t \leq 10$

$0 \leq n \leq 10^5$

Output Format

For every test case print all the semi primes upto n (inclusive) separated by a space.

Sample Input 0

2

10

8

Sample Output 0

4 6 9 10

4 6

For example:

Input	Result
2	4 6 9 10
10	4 6
8	

Answer: (penalty regime: 0 %)

```

1 def is_prime(n):
2     if n<2:
3         return False
4     for i in range(2,int(n**0.5)+1):
5         if n%i==0:
```

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6         return False
7     return True
8
9 def get_semi(limit):
10     primes=[i for i in range(2,limit+1) if is_prime(i)]
11     semi_primes=set()
12
13     for i in range(len(primes)):
14         for j in range(i,len(primes)):
15             product=primes[i]*primes[j]
16             if product>limit:
17                 break
18             semi_primes.add(product)
19     return sorted(semi_primes)
20
21 t=int(input())
22 for _ in range(t):
23     n=int(input())
24     result=[sp for sp in get_semi(n) if sp<=n]
25     print(" ".join(map(str,result)))
26

```

	Input	Expected	Got	
✓	2	4 6 9 10	4 6 9 10	✓
	10	4 6	4 6	
	8			

Passed all tests! ✓