

Problem H: Sum of Primes

Filename: sumprimes

Time limit: 5 seconds

Arup has decided that he wants to write at least one problem in the style of CSES, with no flavor text. Here goes nothing!

The Problem

Given two integers, **a** and **b**, with $a \leq b$, what is the sum of the prime numbers in the range from **a** to **b**, inclusive?

The Input

The first line contains an integer **c**, the number of test cases. The test cases follow, one per line. Each case will contain two space separated positive integers, **a** and **b**, respectively, representing the input for the test case.

The Output

For each test case, output a single integer: the sum of the prime numbers in between **a** and **b**, inclusive.

Input Bounds and Corresponding Credit

20 Points	80 Points
<ul style="list-style-type: none">• $1 \leq c \leq 10$• $2 \leq a \leq b \leq 1000$	<ul style="list-style-type: none">• $1 \leq c \leq 30$• $2 \leq a \leq b \leq 10^{12}$• $b - a \leq 5 \times 10^5$

Samples

Input	Output
2	17
2 10	1060
2 100	