

Figure 2.24: Three algorithms for generating prime numbers

2.3. COMPLEXITY OF ALGORITHMS

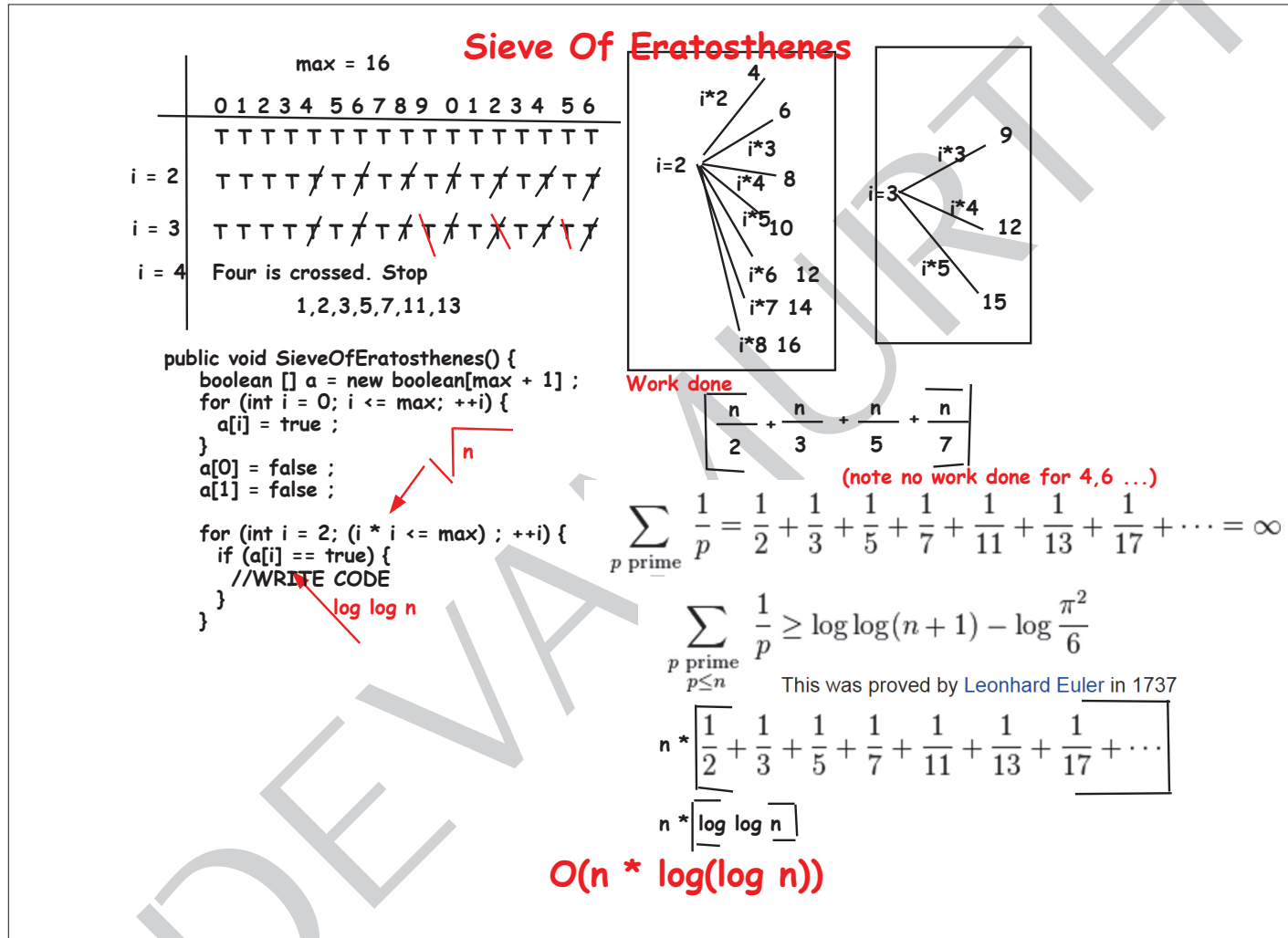


Figure 2.25: Sieve of Eratosthenes algorithm

n	#prime	$O(n^2)$	$O(n\sqrt{n})$	$\frac{O(n\sqrt{n})}{\log n}$	$O(n * \log(\log n))$
16	6	40	17	17	10
1000	168	78022	5288	2801	1411
50000	5133	-	-	313588	93276
500000	41538	-	-	5709008	1033917

Figure 2.26: Number of steps with all the four methods