

173A: COMPUTER EXERCISES

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Exercise 1

Write a program to compute $\pi(X)$ (hint: implement the sieve of Eratosthenes). Compute $\pi(10^5)$.

Exercise 2

Write a sieve which on input X and B computes $\psi(X, B)$. Use your function to compute $\psi(10^4, 20)$.

Exercise 3

Factor 8405801 using the difference of squares method (you should be able to do this without sieving; write a trial division function to test for smoothness).