

Repetition Practice Problems with for loop



1. Write a program that takes a command-line argument n and prints a table of the powers of 2 that are less than or equal to 2^n .
2. Write a program that takes a command-line argument n and prints the n th harmonic number. Harmonic Number is of the form
$$H_n = \frac{1}{1} + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \dots + \frac{1}{n}$$
3. Write a program that takes a input and determines if the number is a prime.
4. Extend the program to take a range of number as input and output the Prime Numbers in that range.
5. Write a program that computes a factorial of a number taken as input.
5 Factorial – $5! = 1 * 2 * 3 * 4 * 5$
6. Write a program to compute Factors of a number N using prime factorization method.
Logic -> Traverse till $i*i \leq N$ instead of $i \leq N$ for efficiency.
O/P -> Print the prime factors of number N .