## 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 nth 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.
- 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 <= N instead of i <= N for efficiency.</p>
  O/P -> Print the prime factors of number N.