Day 4 - Programs at Bootcamp

Section A - Elements of Programing :- Condition, Loops and Logical Programming

1. Write a ***TemperaturConversion.java*** program, given the temperature in fahrenheit as input outputs the temperature in Celsius or viceversa using the formula Celsius to Fahrenheit: (°C × 9/5) + 32 = °F

   Fahrenheit to Celsius: (°F − 32) x 5/9 = °C

2. Write a program ***Trig.java*** to illustrate various trigonometric functions in the Math library, such as Math.sin(), Math.cos(), and Math.toRadians(). Firstly reads in an angle (in degrees), converts to radians, and then performs various trigonometric calculations.

Day 4 - Programs at Home

Section A - Elements of Programing :- Condition, Loops and Logical Programming

1. Write a Program ***Sqrt.java*** to compute the square root of a nonnegative number c given in the input using Newton's method:
   - initialize t = c
   - replace t with the average of c/t and t
   - repeat until desired accuracy reached using condition Math.abs(t - c/t) > epsilon*t where epsilon = 1e-15;
2. Write a program ***HarmonicNumber.java*** that takes a command-line argument n and prints the nth harmonic number. Harmonic Number is of the form

$$H_n = \frac{1}{1} + \frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \ \ldots \ + \frac{1}{n}$$