CSCI 102 **NIT Jalandhar** **(Date: 14/12/2022)**

Lab Assignment #4

Instructor: Dr. Lalatendu Behera

Assignment Policy: Read all the instructions below carefully before you start working on the assignment, and before you make a submission.

- Please include your name and roll number with the submission.
- This assignment is due at 5:00 PM. Late assignments would be penalized by deducting (0.25 no. of minutes of lateness) % of the marks. Any form of copying will incur zero marks.
- The Institute Academic Code of Conduct will be strictly enforced.

Problem 1: Distance (7 points)

Write a program that reads in distance d in inches and prints it out as v miles, w furlongs, x yards, y feet, z inches. Remember that a mile equals 8 furlongs, a furlong equals 220 yards, a yard is 3 feet, and a foot is 12 inches. So your answer should satisfy $d = (((8v + w) \cdot 220 + x) \cdot 3 + y) \cdot 12 + z$, and further $w < 8, x < 220, y < 3, z < 12$.

Problem 2: Short questions (8 points)

1. Write a program to compute 10^{20}. If the result is zero, then give a proper reason.
2. Evaluate the following expressions if x is 10.5 , y is 7.2 , m is 5 , and n is 2 .
   - x / (double)m
   - x / m
   - (double)(n * m)
   - (double)(n / m) + y
   - (double)(n / m)
3. Write a program that stores the values 'A', 'B', 19, and -0.42E7 in separate memory cells that you have declared. Use an assignment statement to store the first value, but get the other three values as input data from the user.
4. Write a program that calculates mileage reimbursement for a salesperson at a rate of $0.35 per mile. Your program should interact with the user in the following manner:

   MILEAGE REIMBURSEMENT CALCULATOR
   Enter beginning odometer reading=> 13505.2
   Enter ending odometer reading=> 13810.6
   You traveled 305.4 miles.
   At $0.35 per mile, your reimbursement is $106.89.

Problem 3: A Line (5 points)

Write a program that takes input as the coordinates of two points in the plane and prints out the distance between them.