

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE
ROORKEE – 247 667

(Autumn Semester 2018 – 19)

CSN 103

Assignment 6

1. Write a JAVA program to find the addition of two distances using class. Distance data is of the form, Kilometers, Meters and Centimeters. Take one data from user and another using parameterized constructor. In the parameterized constructor use 'this' keyword to distinguish between local variable and instance variable.
For example, if given two distances data are 08KM 820M 86CM and 12KM 750M 65CM, then the resultant distance will be 21KM 571M 51CM.
2. What is the difference between Inner Class and Nested Class.
3. Practice two exercise problems in nested classes as given in <https://docs.oracle.com/javase/tutorial/java/javaOO/QandE/nested-answers.html>
4. Write a JAVA program to implement a Matrix class for 3-by-3 matrices: Include a default constructor and parameterized constructor, an `inverse()` function that returns the inverse of the matrix, a `det()` function that returns the determinant of the matrix, a Boolean function `isSingular()` that returns 1 or 0 according to whether the determinant is zero, a `rank()` function that returns the rank of the matrix and a `print()` function. Use `this()` to invoke the current class constructor (refer lecture-20 slides).