Notes for lecture 1

1. Date: April 11th. The first lecture is based on Chapter 1 of the main textbook (Introduction)
    a. The lecture reflects the following topics
        i. Some basic mathematical models; Direction fields
        ii. Solutions of some differential equations
        iii. Classification of differential equations
        iv. Historical remarks
    b. The material of the 1st chapter is mostly introductive (but requires some calculus, so please refresh it).
    c. One of the concepts that is most likely new (not studied in Calculus) for students is the direction field. To grasp the concept better, the students may find helpful the following links: https://www.kristakingmath.com/blog/sketching-direction-fields and http://tutorial.math.lamar.edu/Classes/DE/DirectionFields.aspx .
        i. A variety of direction field plotters (that can be used for solving assignment problems) can be found on the Internet. See, for example, https://www.geogebra.org/m/W7dAdgqc and https://www.desmos.com/calculator/p7vd3cdmei and https://homepages.bluffton.edu/~nesterd/apps/slopefields.html and https://aeb019.hosted.uark.edu/dfield.html
        ii. If you familiar with Wolfram Alpha (a highly recommended system for doing symbolic (and not only) computations) https://www.wolframalpha.com/input/?i=slope+field&a=*C.slope+field-_*Calculator.dflt-&f2=
2. The deadline for submitting homework, Assignment 1 (refer to Assignment1.pdf) is April 18, 13:00. Solutions to this assignment (refer to Assignment1_sol.pdf) will be uploaded to Resource Section on April 18 after the class.