Graph Theory

Instructor: Oliver Janzer

Assignment 6

Please submit your solution to Problem 1 by the end of October 21th for feedback.

Unless noted otherwise, all graphs considered are simple. The solution of every problem should be no longer than one page.

Problem 1: Show that if $k > 0$ then the edge set of any connected graph with $2k$ vertices of odd degree can be split into k trails.

Problem 2: Let G be a connected graph that has an Euler tour. Prove or disprove the following statements.

(a) If G is bipartite then it has an even number of edges.

(b) If G has an even number of vertices then it has an even number of edges.

(c) For edges e and f sharing a vertex, G has an Euler tour in which e and f appear consecutively.