Problem set 7.

Homework: Due Wednesday Nov. 2.

Read p.83-98 of Rudin.

Problems to turn in
Problem: Let T_1 be the usual metric topology on R. Let T_2 be the discrete topology where every subset of R is open. Let T_3 be the indiscrete topology on R where the only open sets are R and the empty set. Determine which functions $f : R \to R$ are continuous for each of the nine possibilities when the domain and range have one of the topologies T_1, T_2 or T_3. (When both the domain and the range have the usual metric topology T_1, the continuous functions are the usual continuous functions. In that case you do not need to say anything more.)

Do problems 2, 3, 4, 5, 7, 14 and 18 on page 98 of Rudin.

Additional suggested problems Problems 1, 6, 15, 16, 17 and 19 on page 98 of Rudin.