

650:152 Calculus II(Sections 21-23)

This is a correction to a small error in the Thursday 11-2 lecture.

At the end of class I stated the alternating series test:

If  $\{a_n\}$  is an alternating sequence (alternately positive and negative terms) such that the sequence of absolute values  $\{|a_n|\}$  is decreasing and converges to 0 then  $\sum_{n=1}^{\infty} a_n$  converges.

In the lecture I forgot to include the crucial condition that the sequence  $\{|a_n|\}$  converges to 0.

For example, the sequence given by  $a_n = (-1)^n(1/2 + 1/n)$  is alternating and  $\{|a_n|\}$  is decreasing, but  $\sum_{n=1}^{\infty} a_n$  does not converge because  $\lim |a_n| = 1/2$  rather than 0.