Math 377, Handout 9:
Problem due December 1

1. Let \( F(x) = \sum_{k=1}^{\infty} f_k(x) \) be a series that is uniformly convergent over any closed interval \([c, d] \subseteq (a, b)\) where every \( f_k(x) \) is continuous on \([a, b]\) and such that \( \sum_{k=1}^{\infty} f_k(b) \) converges. Does this imply that

\[
\lim_{x \to b^-} F(x) = F(b)\]