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Project Title: Convergences of fixed point iteration schemes
in Banach spaces
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Abstract: We introduce and study many iteration schemes for various kinds of mappings, including asymptotically nonexpansive and nonexpansive mappings, relatively quasi-nonexpansive mappings, and Lipschitzian mappings in Banach spaces and Hilbert spaces. We also prove several weak and strong convergence theorems of each iteration. Our results improve and include the corresponding known results studied by many authors. Moreover, we correct some doubtful results appeared in the literatures.

Keywords: asymptotically nonexpansive and nonexpansive mappings, relatively quasi-nonexpansive mapping, Lipschitzian mapping, Banach space, Hilbert space, weak and strong convergence theorems