In Computerized Adaptive Testing (CAT), items are selected in real time and are adjusted to
the test-taker's ability. While CAT has become popular for many measurement tasks, such as
educational testing and patient reported outcomes, it has been criticized for not allowing
examinees to review and revise their answers. In this work, we propose a novel CAT design
that preserves the efficiency of a conventional CAT, but allows test-takers to revise their
previous answers at any time during the test. % and the imposed restriction is on the number
of revisions to the same item. The proposed method relies on a polytomous Item Response
model, which describes the first response to each item, as well as any subsequent responses
to it. Each item is selected in order to maximize the Fisher information of the model at the
current ability estimate, which is given by the maximizer of a partial likelihood function. We
establish the strong consistency and asymptotic normality of the final ability estimatorunder
minimal conditions on the test-taker's revision behavior. Finally, we present the findings of
two simulation studies that illustrate our theoretical results, as well as the behavior of the
proposed design in a realistic item pool.