Hecke algebras and Schur algebras of the symmetric group

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ABSTRACT. These notes give a fully self–contained introduction to the (modular) representation theory of the Iwahori–Hecke algebras and the q–Schur algebras of the symmetric groups. The central aim of this work is to give a concise, but complete, and an elegant, yet quick, treatment of the classification of the simple modules and of the blocks of these two important classes of algebras. Our approach is combinatorial in nature and is based upon the construction of (cellular) bases which are particularly well adapted to the representation theory.