# Introduction

These notes are based on a 24 hours course given in the spring 2015 at the University of Milano Bicocca and the following year, in a revised and more complete version, at the University of Salento. In both cases it was part of the Dottorato di Ricerca programme. My aim here is to introduce students to the study of classical groups, an important instance of groups of Lie type, to their subgroup structure according to the famous classification Theorem of Aschbacher, and their matrix representations. My main references for such topics, which are absolutely central in abstract algebra and also reflect my personal tastes, have been [1], [2], [5], [6], [11], [13], [15] and [21].

These notes have no claim of completeness. For this reason each Chapter suggests more specific excellent textbooks, where a systematic treatment of the subject can be found. On the other hand a great deal of significant facts are presented, with proofs in several cases and a lot of examples.

As background I assume linear algebra and the basic notions of group theory, ring theory and Galois theory. As generale reference one may consult, for example, among many others: [9], [12], [14], [16], [17] and [19].

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