

Summary

At the beginning of this thesis we revise basics of the theory of finite-dimensional complex representations of finite groups. Our goal is to get acquainted with the concepts of the character of a representation and the induction and restriction of a given representation. Then, using the structure theory of PSH algebras, we discover a way for better understanding of the representations of symmetric groups and general linear groups over the finite field. More precisely, we describe how the structure of PSH algebra is introduced on aforementioned groups.

Paper is divided into two chapters, the first is about representations, while in the second we describe the structure of PSH algebra in great details and the associated structural theory. In second chapter, we continue, as stated above, with describing a way to introduce the structure of PSH algebra in the case of symmetric groups and general linear groups over finite field.