Abstract:
This bachelor thesis deals with the theory of continued fractions which is design of a stream cipher in article On the use of continued fractions for stream ciphers based on. Since results about probability for a positive integer number to be a partial quotient of a generalised continued fraction which are necessary for proving the cipher secure, has not been proved yet, there are summarized previous results which could lead to proving them. In particular, basic properties of classical and generalised continued fractions and proof of Kuzmin theorem are presented here. Distribution of probability for a positive integer number to be a partial quotient of a classical continued fraction follows from Kuzmin theorem. The design of the stream cipher from the article is briefly introduced at the end of the thesis.