# Outline of Thesis

1. Introduction to Quantum Computing
2. Introduction to Code Theory/Linear Codes
3. Learning Theory
    a. basics of concept learning
    b. theorem and proof of bound on certificate complexity of linear codes
    c. theorem and proof of bound on block sensitivity of linear codes
4. Reed-Muller Codes
    a. RM as boolean functions
    b. encoding
    c. classical decoding algorithm (with projective geometry explanation)
5. Quantum Decoding Algorithm for RM codes
    a. adapting the multivariate polynomial interpolation algorithm to RM decoding
    b. Two noise models:
        1. Stateful noisy oracle
        2. Stateless noisy oracle
6. Appendices
    a. Tensors
    b. Projective Geometries