Project 2

This database will store all the 1 qubit gates that can be made from combinations (dot products) of the h, t and s gates. In addition, it will also store the combination that generates each of these strings in terms of h, t and s gates. the aim is to find the gates or its best approximation in the database (using the Solvay-Kitaev algorithm) and then find the h, tand s combination which can be used to make that gate.

1. Project 2_part(a) outlines creating the database with two tables
2. Modules Project 2part(a) outlines the modules uses apart form dot_prod_new
3. dot_prod_new_module describes the creation of data for two linked tables in the database
4. Project 2(b) documents the modules and code in order to use the database to find the best approximation and the gate sequence corresponding to that matrix.
5. Project 2(c) consists of programs that investigate quantum gates h,s and t and combinations of these gates of eg h.t.s.t etc. This could be from the database, or alternatively generated by in the programs presented here.