SOLVING THE GRADING SYSTEMS

This folder contains the files needed to run the calculations for finding the salient sets for $E(1)_{7_6}$ and $E(1)_{10_{133}}$. Bottom line: the matrix of coefficients defining the salient set for $E(1)_{7_6}$ has rank 21 and the one for $E(1)_{10_{133}}$ has rank 20.

The .m files contain a sequence of Mathematica commands to produce the output files salientm$x$.txt, salientb$x$.txt, and numbers$x$.txt, where x is either 7 or 10, depending on which set of equations is being used (7 is short for $E(1)_{7_6}$ and 10 is short for $E(1)_{10_{133}}$). The file x.m takes Equations$x$.txt as input. The output from those files is also included in these folders. Explanations for what these files have to do with the salient sets can be found in the comments in the .m files.

The files Equations$x$.txt were originally called Equations.txt when EQMaker made them; they were renamed later by a human.

For those who wish to run these calculations on their own machine (which would probably be a mistake for 10.m), instructions for what to do with these files are in the .m files' comments. Just open any of the files in this folder using any text editor.

For those who want to use computer resources which are managed by SLURM, x.sh is a bash script to add x.m to the queue. Put the input files in the right place, and in the command line, the command is

```
bash 7.sh
```

or type

```
bash 10.sh
```

and hit enter (be sure to first change the email address in the sh file to your own).

To sum up, here is a list of the contents of the folder x:

- image.svg_Data is the output produced by EQMaker
- x.m is the annotated list of Mathematica commands to solve the grading system.
- x.sh is a bash script for people who use SLURM to queue up x.m
- image.svg is the pseudocoronation diagram taken as input by EQMaker
- numbers$x$.txt, salientb$x$.txt and salientm$x$.txt are the output from x.m