Objective: To initiate and deliver an original and creative project related to Discrete Math.

General: This is an open ended project and as such there will be no instructions of what to do beyond very few examples (see below). This project is a great opportunity for students to boost their final grade. It fits better those who are good in programming but everyone is welcome to try.

Disclaimer: This is an “experimental project”. Rules and procedures may change. However, it will not hurt you to try, it can only help improve your final grade.

Some examples:

- Demonstrate a concept, a proof, a solution to a puzzle, or anything else related to Discrete Math with about 5-minute animated presentation or a slide presentation.
- Animate an algorithm that is related to Discrete Math. Or, build a demo which shows how the algorithm works for instances selected by users.
- Illustrate a proof without words for any combinatorial identity or improve the presentation of existing proofs.
- Identify and demonstrate interesting patterns of sequences or of set of numbers (for example, prime numbers or powers of prime numbers).

Programming language: You may use any programming language.

Procedure and time line:

- A proposal should be submitted as soon as possible but no later than Nov 23, 2021.
- If the proposal is approved, the project and a report should be submitted by Dec 9, 2021.
- After the deadline, one on one video meetings will be scheduled in which you present your project to me.

Grading: You lose nothing by trying to complete an approved project because your grade will be 100 regardless of how well you do. For those who do well, the percentage by which the project will count in their final grade could be as high as 15% depending on the factors listed below. On the other hand, if you get it entirely wrong, the percentage could be zero.

Grading main factors:

- Correctness.
- Originality.
- Creativity.
- Project hardness and mathematical depth.
- Beauty.

Integrity: Students are expected to do this project by themselves without any external help from other people. Cheaters will be punished severely. At minimum, they will fail the project, but they may fail the whole class. In addition, students who cheat risk disciplinary measures by Brooklyn College and CUNY.