CS2022/MA2201
HW#5

DUE: Thursday, September 25

1. (5 points) Prove **by induction** that $2^n \leq 2n!$ for $n \geq 1$.

2. (7 points) (From Mandber's *Introduction to* Algorithms) Prove that for any $n \geq 3$ lines in the plane in general position, at least one of the regions they form is a triangle (bounded by exactly three lines).

3. (1 point) Do **Exercise 4.1.4** from our text.

4. (1 point) Do **Exercise 4.1.8** from our text.

5. (2 points) Do **Exercise 4.1.14** from our text.