6/7/22 Python 1

Goals for today

(1) Lemonade
- More in depth problem solving example

(2) Integer Division, Mod

(3) Random #s.

KNOWN

Sugar cost 1 pitcher of lemonade
- cost of 1 lemon
- lemons per pitcher
- cups per pitcher

Ask user: Charge for one cup. How many pitchers they will sell?

Goal: What is our profit?

TOTAL EXPENSES = #pitchers * (Sugar cost + (cost 1 lemon * lemons/pitcher))
(cost of making 1 pitcher)

TOTAL REVENUE = (Cups/pitcher) * (#pitchers) * (Charge 1 cup)
(total cups)

TOTAL REVENUE - TOTAL EXPENSES

[0, maxCups] Original Range

1 bad [0, maxCups//3] $0, \frac{1}{3}$

2 medium [maxCups//3, 2*maxCups//3] $\frac{1}{3}\ \frac{2}{3}$

3 good [2*maxCups//3, maxCups] $\frac{2}{3}\ \frac{3}{3}$

((weather-1)*maxCups)//3 start

(weather*maxCups)//3 end

Integer Division

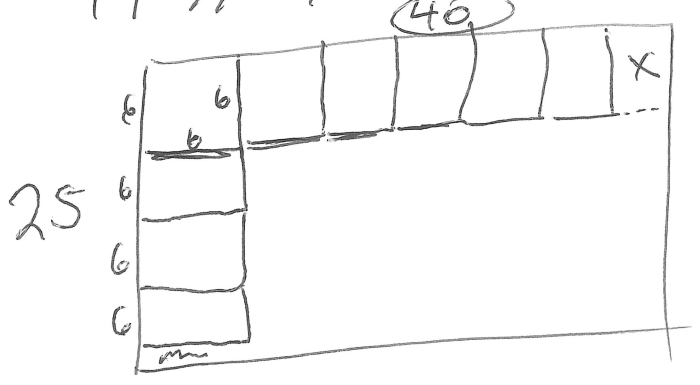
7 // 2 = 3

a // b → largest integer $\leq \frac{a}{b}$.

18 // 5 = 3 ✓

17 // 100 = 0 ✓

49 // 7 = 7 ✓



25//6 ⇒ # rows

40//6 ⇒ # cols