

- Sample Talk [Given in class]
- ~~Rough~~ "Writing Rubric" [discussed in class]
- Markowitz model:

$$Utility(R, \mu) = \bar{R} - \mu Var(R)$$

- My hunch:

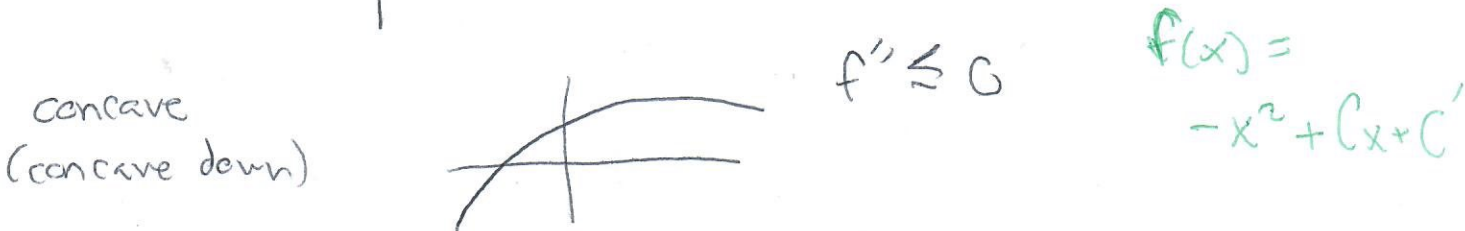
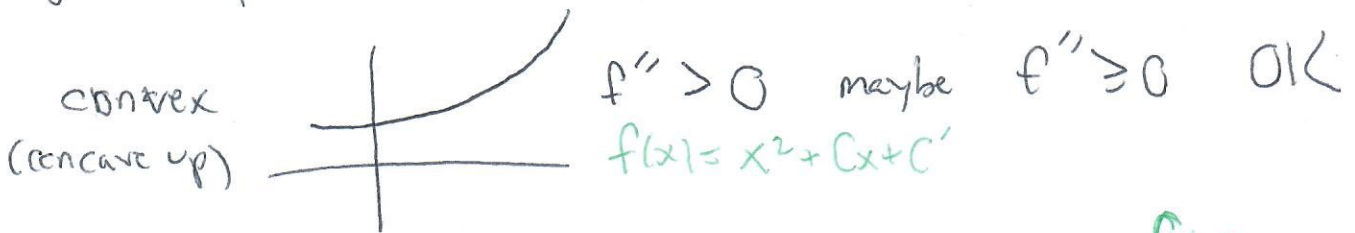
New content: μ -Markowitz model, quadratic prog
 (two weeks) }
 probably near end November

non-linear prog
 some flexibility

Email me if you want four favourite topic be discussed.



generally make some assumptions:



(2)

Back to Markowitz model...

If X is a "random variable"

value x_1 with prob p_1
 x_2 - - - p_2 - -

$$\bar{X} = \sum_{i=1}^n x_i p_i = E[X],$$

useful
↓ ↓

$$\text{Var}(X) = \sum_{i=1}^n (x_i - \bar{X})^2 p_i = E[(X - \bar{X})^2] = \overline{(X - \bar{X})^2}$$

random variable

~~Portfolio~~: a bunch of random variables. -

(3)

What happens

$$\text{Portfolio} = 3C + 2P + 7A$$

non-negative if buying

=

Say random variables X, Y , reals a, b ,

What is $\overline{aX + bY}$ and $\text{Var}(aX + bY)$

$$\overline{aX} = a(\overline{X}), \quad \overline{X+Y} = \overline{X} + \overline{Y}$$

$$\text{Var}(aX) = a^2 \text{Var}(X)$$

(if $\overline{X} = 10$, $X \begin{cases} 8 & p=1/2 \\ 12 & p=1/2 \end{cases}$, $\text{Var}(X) = 4$

$$\text{Var}(X+Y) = ? \quad \text{Var}(X) + \text{Var}(Y) \quad ??$$

"Covariance" need a correction