

Crafting with Data

Reality, Illusions, Truth & the Future

Instructor: Rob Faludi

Plan for Today

- IRB
- Exercise One: Spinning Coins
- Coin Toss Results
- Africa and Measuring Data, some more results
- Present New York Data project results
- Readings & Assignments

IRB Results

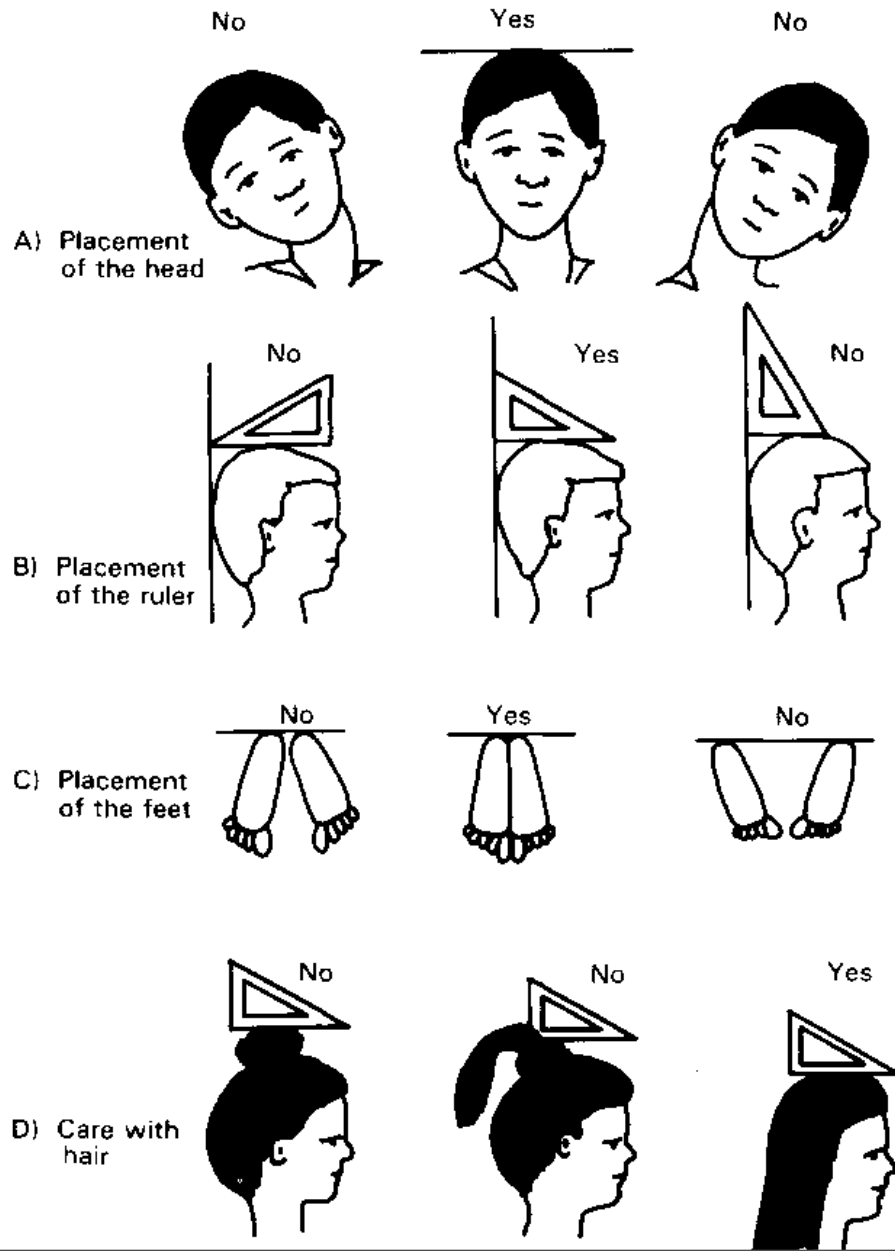
- Please hand in your IRB test passing grade

- ...if you really can't pass it, see me.

Exercise One: Spinning Coins

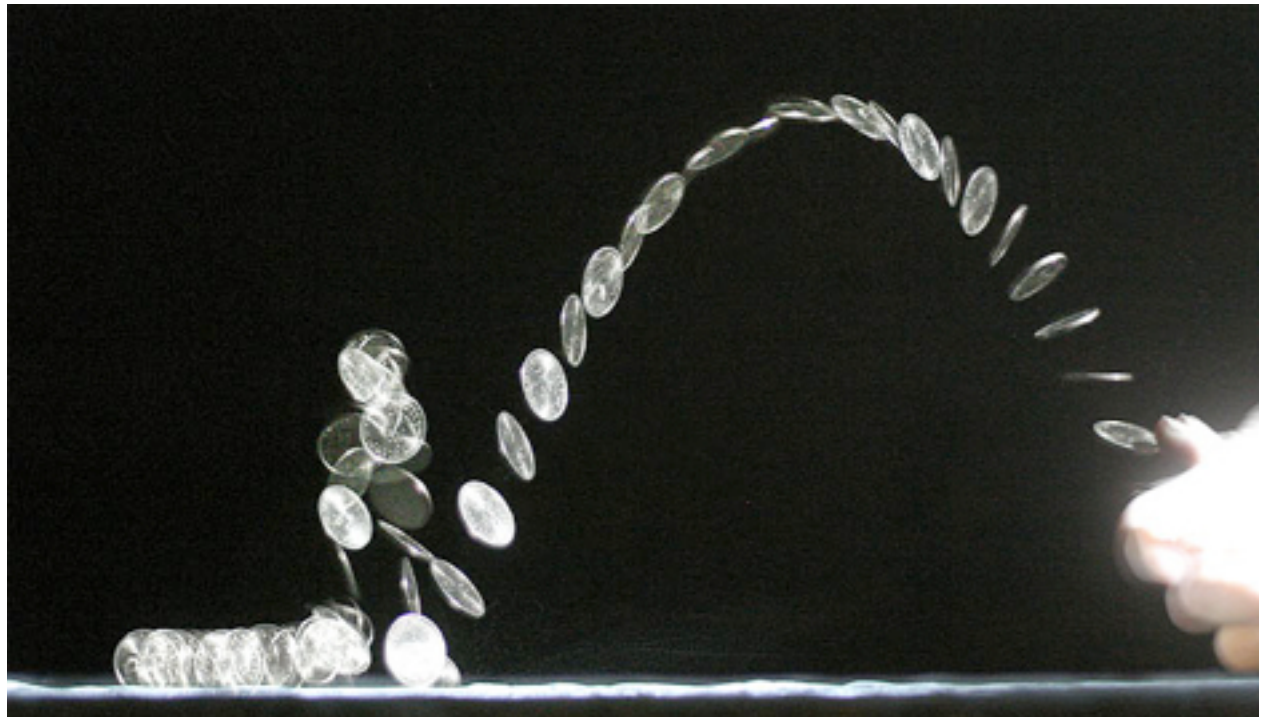
- Using pennies, gather the results of 30 coin spins each, spinning the coin on edge on a table, achieving a stable spin and waiting for it to fall over without hitting anything.
- Enter the results in the class Google Spreadsheet
- Are the results biased or fair? How can we tell?
- BINOMDIST(number_s, trials, probability_s ,cumulative)
 - number heads, total trials, 0.5, TRUE
- *Extra Credit: try standing some coins on edge and then banging the table.*

African Countries and Your Heights: Results



Coin Toss Results

- My guesses
- Reality
- Am I guessing?
 - Binomial distribution
 - Chi-square



New York Data: Results

- question you had
- analysis attempted
- Answers learned



Readings and Assignments

- Readings

- The Lady Tasting Tea, by David Salsburg — Chapters 3, 4 & 5

- Assignments

- Build either a real quincunx OR make a program to simulate a quincunx (or if you're feeling inspired, build any device or program that incorporates the probability density distribution (normal curve) in its fundamental operation)

