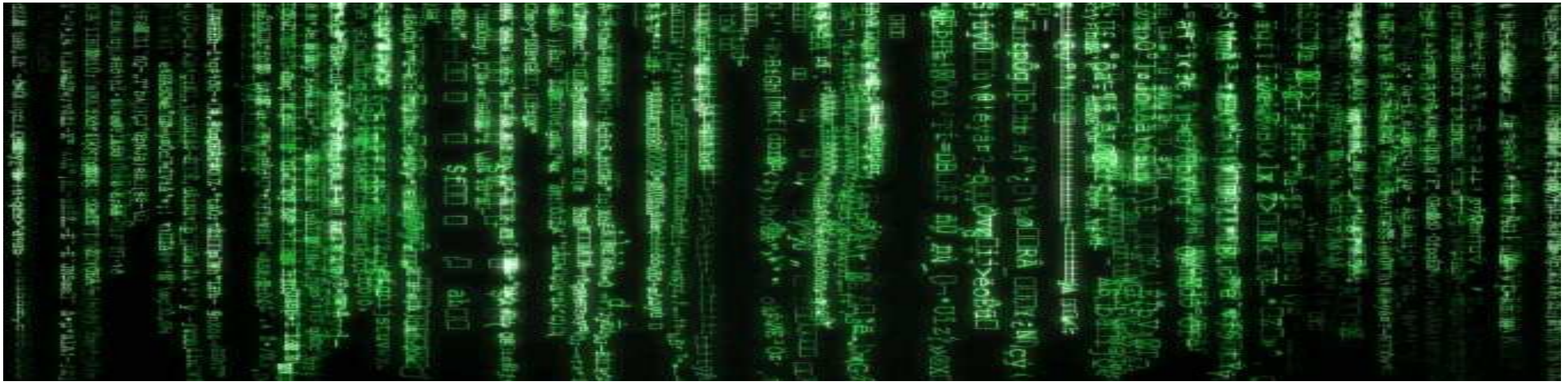


INF 110 Discovering Informatics

Sampling and Estimation

NAU
NORTHERN
ARIZONA
UNIVERSITY

Live Code Review Mini HW 2

Tasks:

Question 1:

- create two variables and assign them random variables
- Use if statements to compare the values and output a message

Live Code Review Mini HW 2

Tasks:

Question 2:

- Valuable lessons about nested if statements

Live Code Review Mini HW 2

Tasks:

Question 3:

- Create a list of random floats
- Use a for loop to print each value individually

Live Code Review Mini HW 2

Tasks:

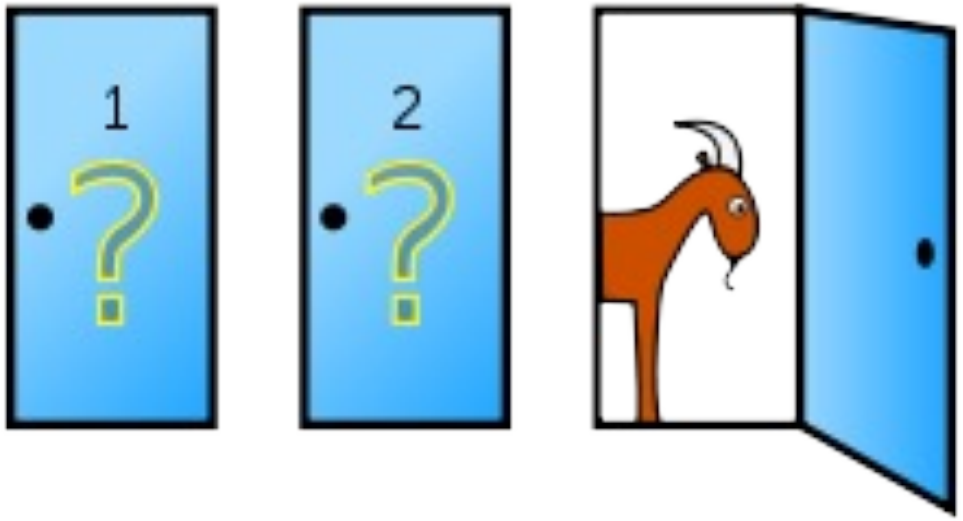
Question 4:

- Simulate 10 die rolls
- Store the output in an array called “rolls”

Live Code The Monty Hall Problem

- There are 3 closed doors.
  - Behind one is a ***fancy car.***
  - Behind two are ***goats.***
- Contestant chooses a closed door
  - This door is not opened.
- Host opens a ***different*** door to reveal a goat.

- There are two doors left.
  - One that the contestant chose
  - The other one has not been revealed
  - One of these has a goat, the other a car.



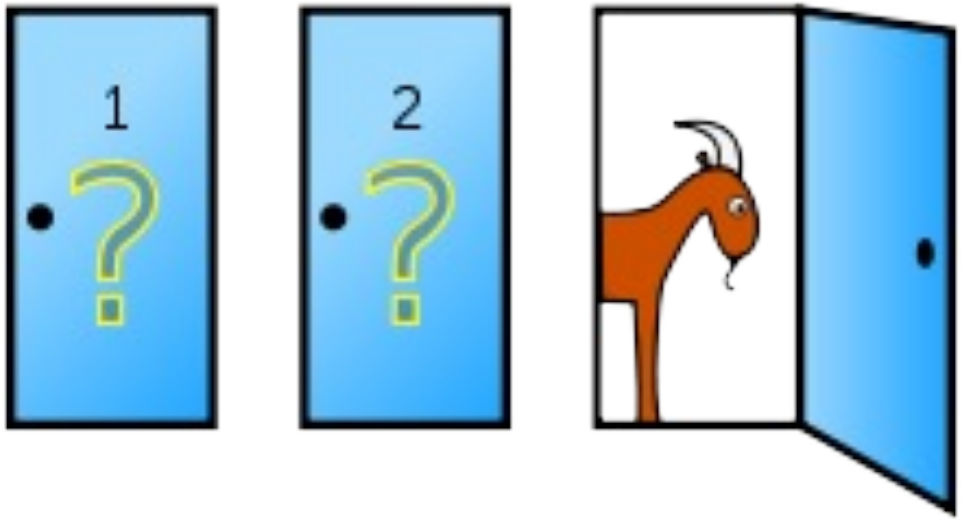
The Monty Hall problem is:

To win a car, should the contestant switch doors?

Live Code The Monty Hall Problem

The solution:

- The chance that a car is behind the first chosen door is 1/3.
- The car is behind either the chosen door or the remaining door and it can’t be anywhere else.
- Therefore, the chance that a car is behind the remaining door is 2/3.



The contestant should switch!!!

Live Code The Monty Hall Problem

Tasks:

Step 1: what to simulate.

Step 2: Simulate one play.

Step 3: Select the number of repetitions

Step 4: Simulating many repetitions.