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# Project: Random Walk program

## # SUMMARY

# A person walks a given number of steps along a linear path, starting at the origin (0) and # randomly choosing to walk left or right at each step.

- 1. How can we determine the end point of this "Random Walk"?
- 2. What would a graph outlining the results of 100 unique "Random Walks" look like?

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## # STRATEGY

# Terms used in explaination below:

# Matrix: Table-like data structure used in R to store values of the same type

# Histogram: Similar to bar graph, but x axis dipicts value range within single data field # For Loop: Repititive call to perform a specific action for a set number of iterations

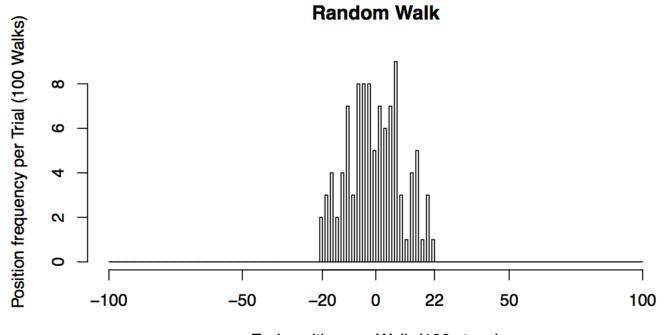
# Steps taken to solve the Random walk challenge:

- # 1. Limit each walk to 100 steps (to keep things simple)
- # 2. Generate Matrix (100 rows,1 col) randomly assigning value of "0" or "1" per row
- # 3. Via ForLoop, generate 100 unique matrices and bind into single master Matrix (100 x 100)
- # 4. Replace each "0" with "-1" within master Matrix
- # 5. Determine cumulative sum value per column (unique walk) of master Matrix
- # 6. Generate histogram of 100 unique walks, where y = end points and x = step range (-100:100)

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# RESULTING GRAPH

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End position per Walk (100 steps)