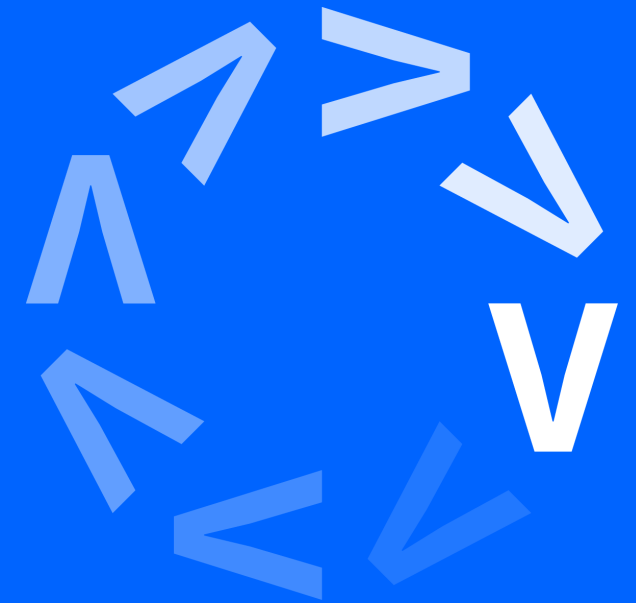




Welcome Students!

- Please do the following:
 - Sign in on the attendance sheet
 - We will NOT be on computers today, so no need to turn them on

Mentor Introductions



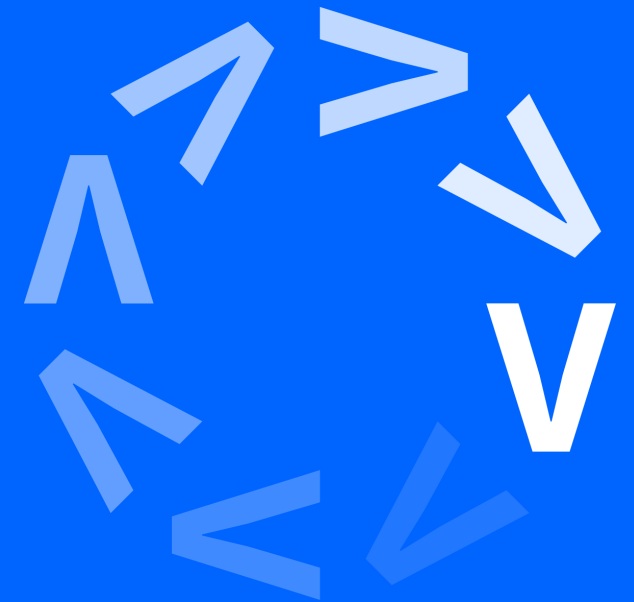
Presented by IBM **Volunteers**

Putting the Science in Data

The Basics of Data Science



Presented by **IBM Volunteers**



What is Data Science



Where does Data Science Lead?

- Data Scientist / Engineer / Analyst
- Marketing
- Consultant
- Risk Analyst
- Researcher
- Creative Arts



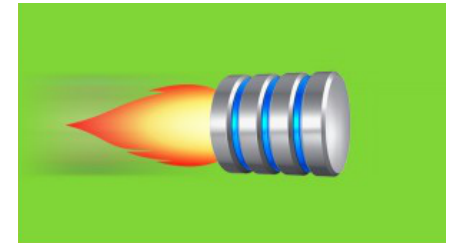
Really Big Data...



Volume



Veracity



Velocity



Variety

And add in science...



Statistics



Describe

Predict

Goals of Data Science

Describe

Rain=no and Day=Saturday -> Play = Y

Help to understand the relationship between the inputs and the output.

Predict

Color	Texture	Shape	Avg Size (in)	Sweet	Object
Green	Smooth	Oblate	4	No	Tomato
Yellow	Smooth	Round	3.5	Yes	Apple
Green	Rough	Oblate	2	No	Tomatillo
Red	Lumpy	Cylindrical	2.5	No	Chili
Green	Rough	Oblong	11	No	Cabbage
Yellow	Smooth	Oblong	8	Yes	?

Make predictions for a new sample described by its attributes.

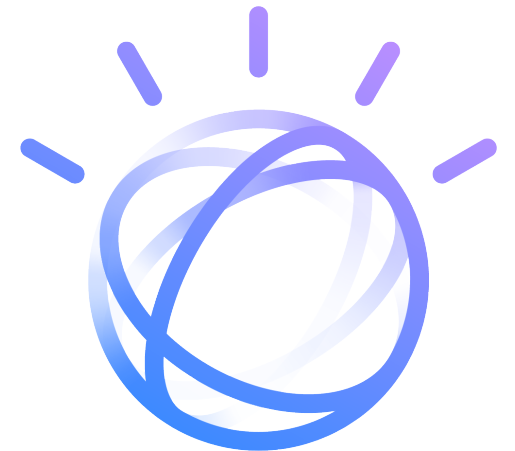
88% chance of being a banana

What makes it possible?

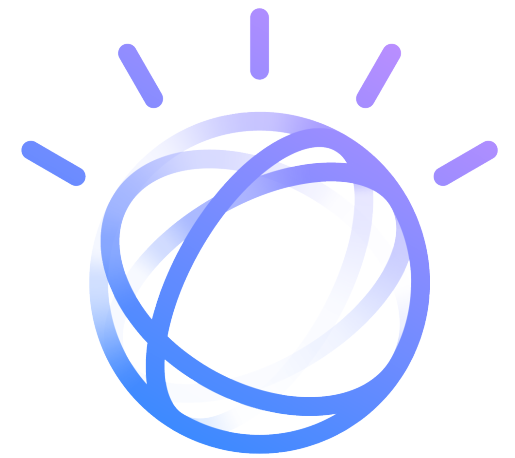


Has Data Science impacted your life?

- It has if you –
 - Use social networking websites like SnapChat, Instagram or Facebook
 - Sites collect data to present relevant ads/feeds
 - Go shopping
 - many stores rearrange products/change design based on data science
 - Receive recommendations
 - Watching movies, reading books, shopping
 - Ask Google, Siri, Alexa, Cortana, etc. a question



Data Science Fun Facts



- It can apply to nearly any industry
- Nearly 90% of data scientists are contacted at least once a month for new job opportunities
- 88% of all data scientists are now happy or very happy in their job
- Less than 0.5% of all data we create is ever analyzed and used
- Presentation is key

Any questions?



Directions

1. Divide the class into four - number off 1 to 4
2. Each number is a team
3. The teams will be given one challenge to work on as a group
4. After 3 minutes, the teams will need to be ready to discuss with the mentors
5. The team with the clearest explanation is the winner
6. The winning team gets bragging rights & a swag item per team member!

1 - Describe

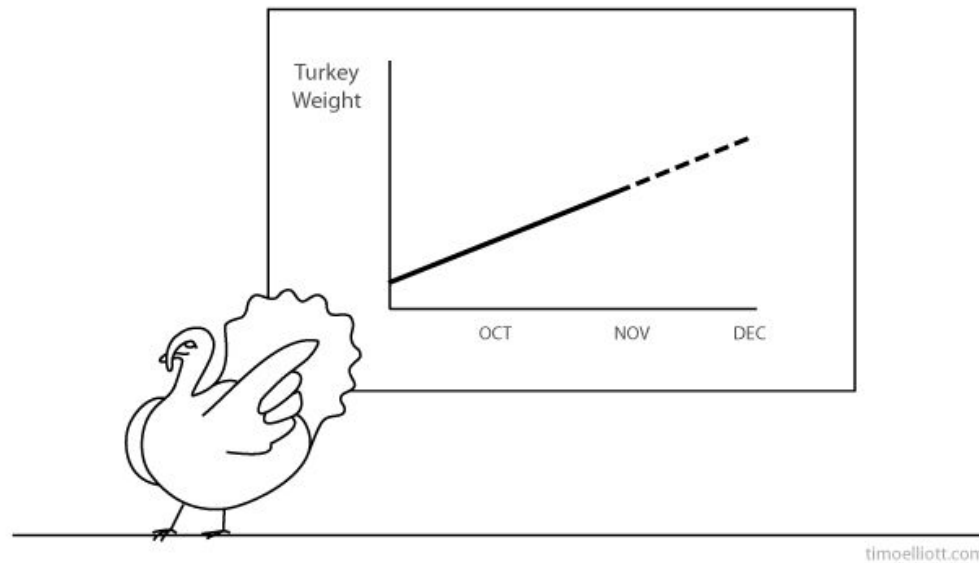
What would a computer or data scientist see?



2 - Predict

What is wrong with the turkey's prediction?

THANKSGIVING PREDICTIVE ANALYTICS



"I see no reason why excellent growth shouldn't continue..."

3 - Predict

Can you determine a pattern to predict "Friend of Elvis?"

Type of Animal	Caught a Rabbit	Friend of Elvis
Cat	No	No
Dog	No	No
Dog	Yes	Yes
Eagle	Yes	No

4 - Describe

Determine a pattern for related purchases?

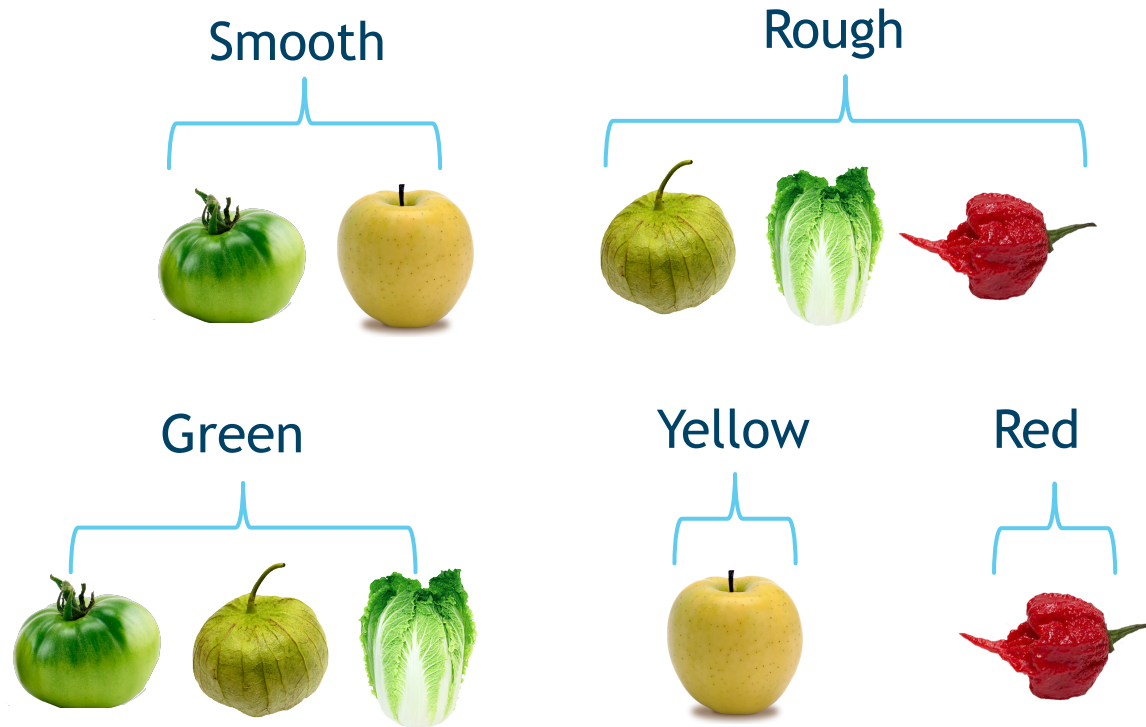
Item 1	Item 2	Item 3	Item 4
Apple	Banana	Cherry	Durian
Apple	Durian		
Banana	Durian		
Durian	Banana	Cherry	
Banana	Durian		
Apple	Banana		
Apple	Cherry	Durian	

Begin

Present Answers

1 - Describe

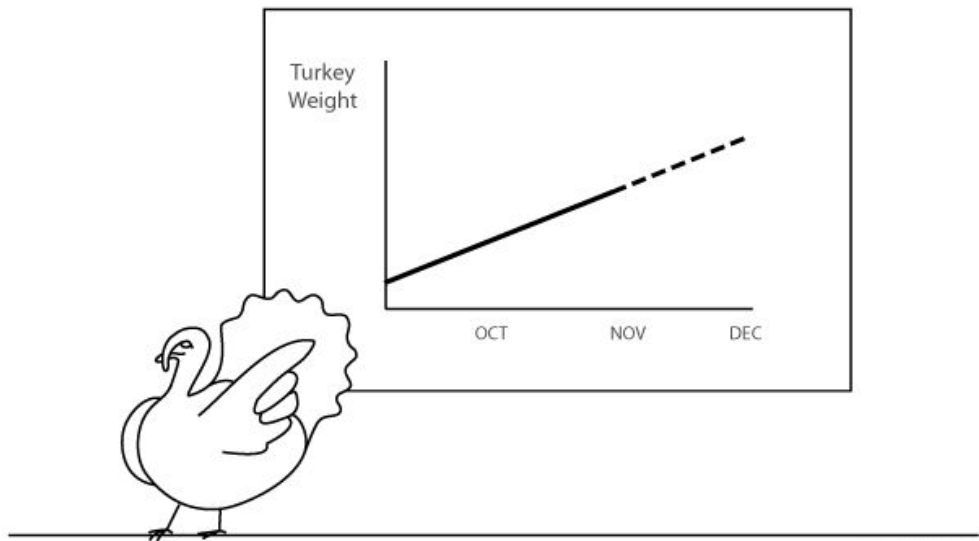
What would a computer or data scientist see?



2 - Predict

What is wrong with the turkey's prediction?

THANKSGIVING PREDICTIVE ANALYTICS



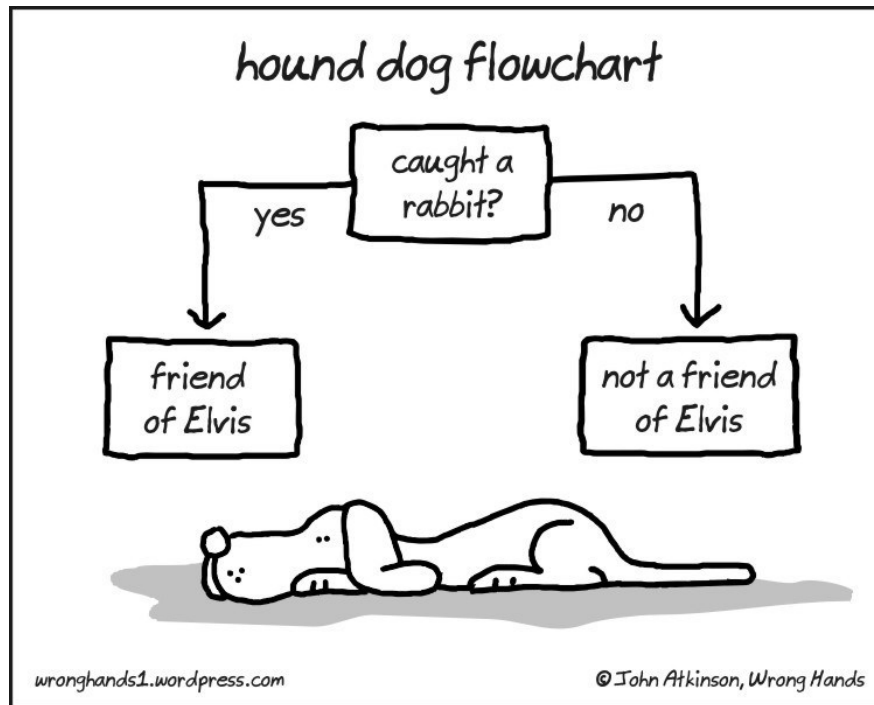
timoe Elliott.com

"I see no reason why excellent growth shouldn't continue..."

The main issue is the turkey's weight may not keep going up after Thanksgiving and weight cannot go up forever.

3 - Predict

Can you determine a pattern to predict "Friend of Elvis?"



4 - Describe

Determine a pattern for related purchases?

Item 1	Item 2	Item 3	Item 4
Apple	Banana	Cherry	Durian
Apple	Durian		
Banana	Durian		
Durian	Banana	Cherry	
Banana	Durian		
Apple	Banana		
Apple	Cherry	Durian	

Banana/Durian 80%
Cherry/Durian 100%



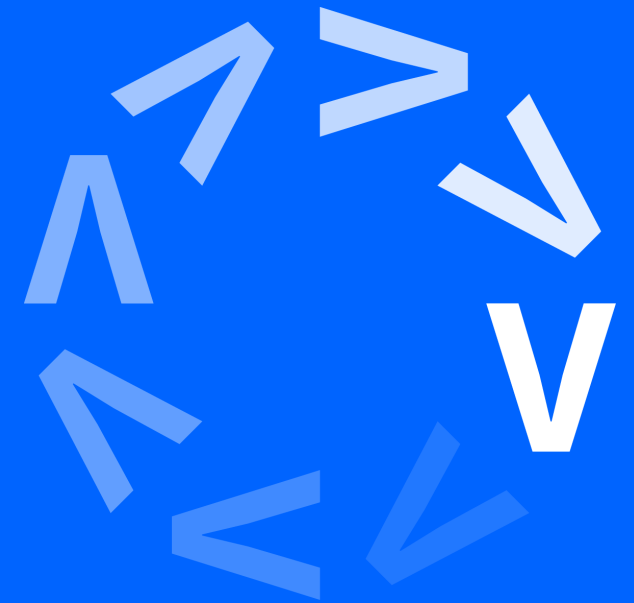
Discussion questions

- What did you learn about data science through this activity?
- What lingering questions/thoughts about data science do you have related to being a web development college student and your future career?

Q&A



Thank you.



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