



Webinar 1

Case Studies

On

“Choosing an Effective Visual”



Knowledge: Storytelling with data by Cole Knaflic

Webinar 1

Case Studies

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“Choosing an Effective Visual”



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Number of meals served each year

Meals served over time

Campaign Year	Meals Served
2010	40,139
2011	127,020
2012	168,193
2013	153,115
2014	202,102
2015	232,897
2016	277,912
2017	205,350
2018	233,389
2019	232,797

What visuals would you create from the given data?

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from the given data?

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What are the advantages and disadvantages of using heatmap in this case study

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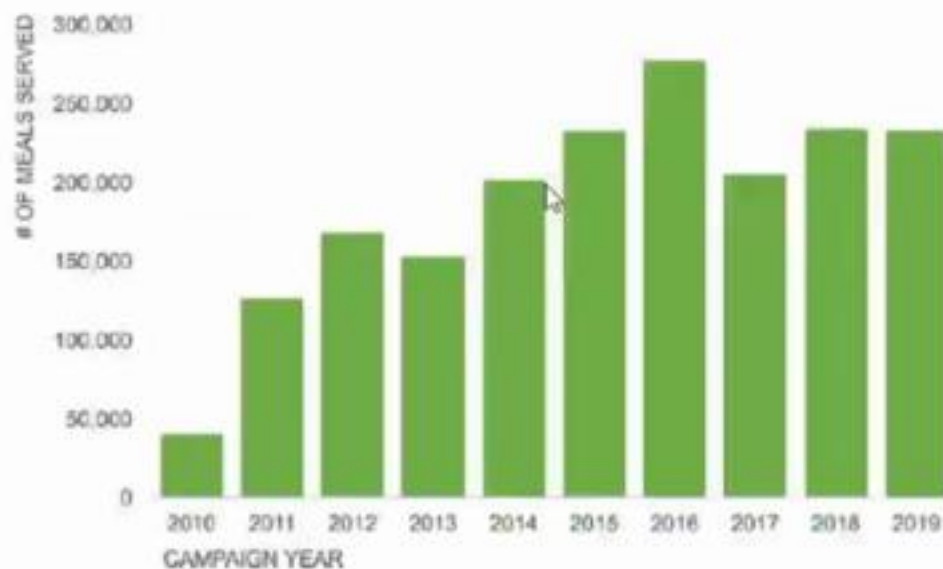
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Bar Graph

Meals served over time



When is a bar graph helpful?

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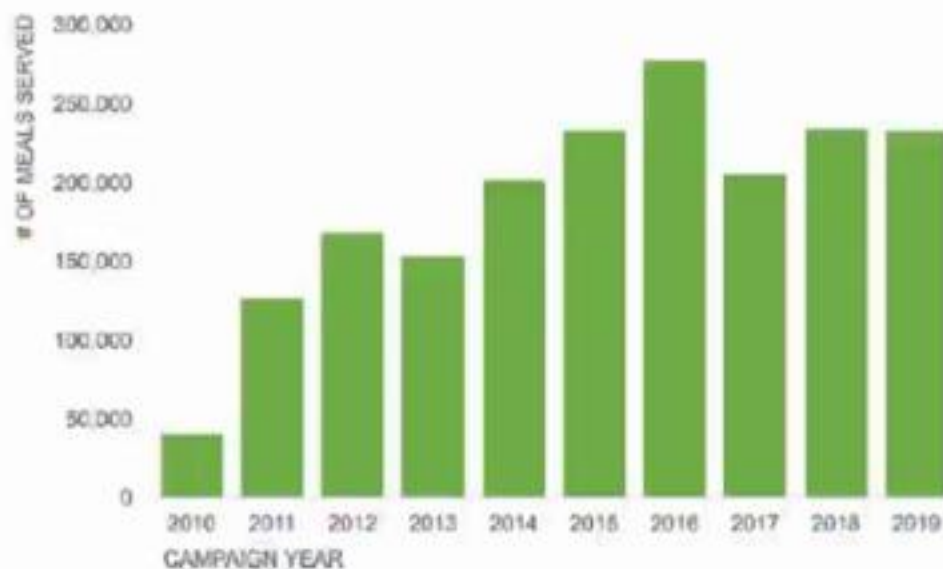
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Bar Graph

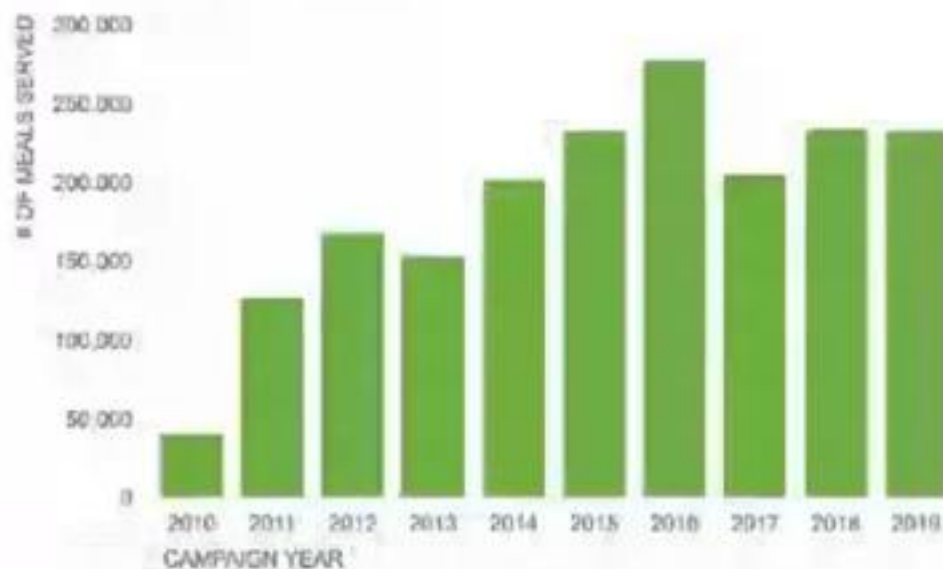
Meals served over time



When is a bar graph helpful?

Bar Graph

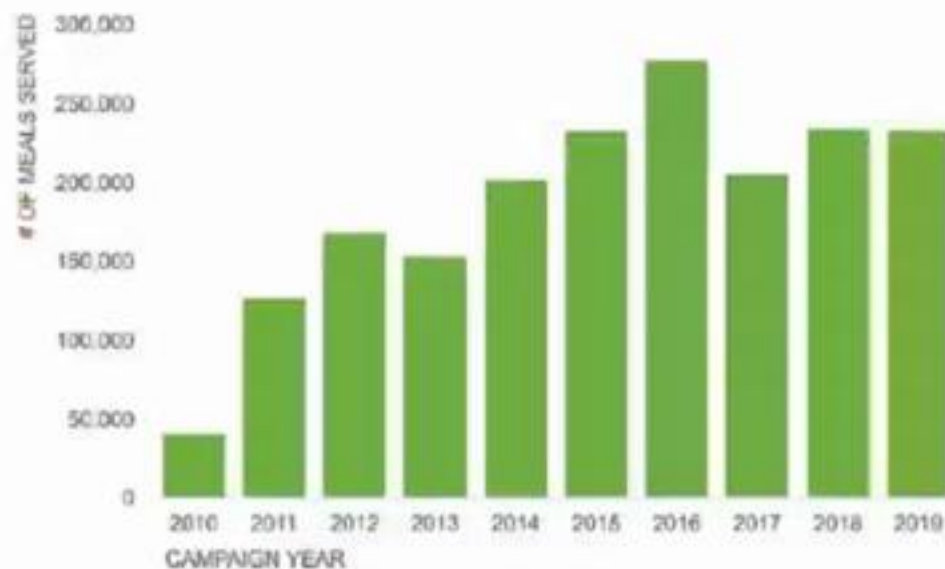
Meals served over time



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Bar Graph

Meals served over time

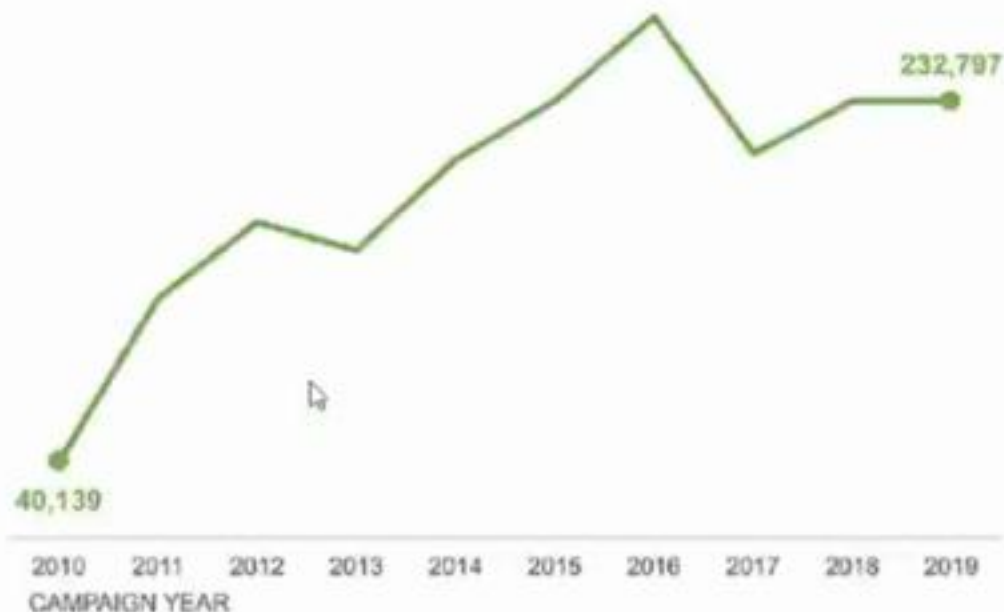


When is a bar graph helpful?

Line Graph

Meals served over time

OF MEALS SERVED



Which visualization did you like the best?

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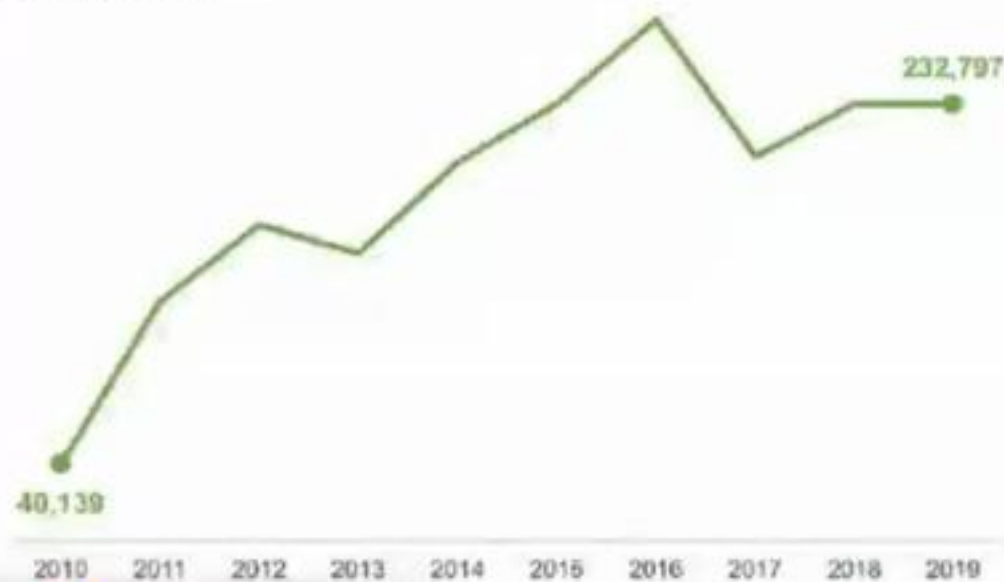
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Line Graph

Meals served over time

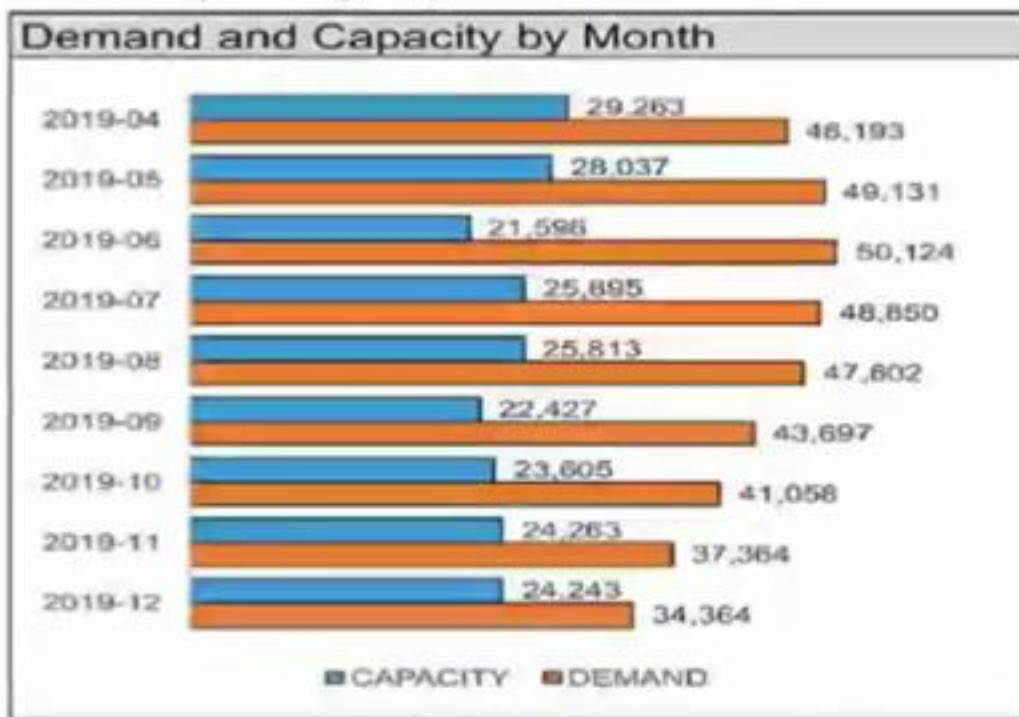
OF MEALS SERVED



the best?

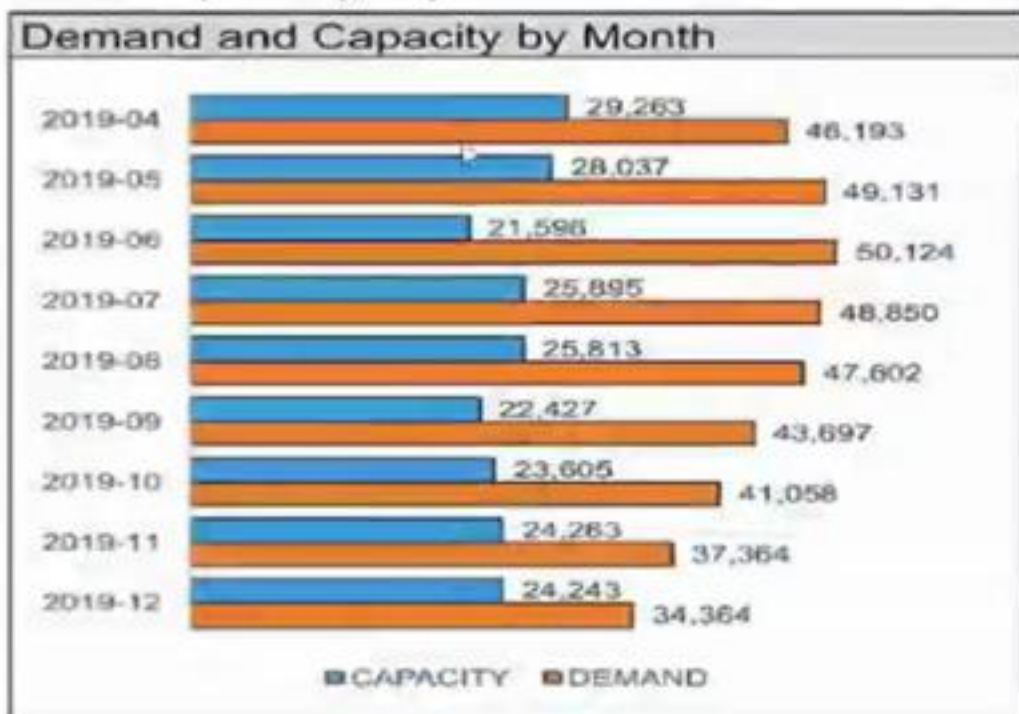
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Demand and Capacity by Month



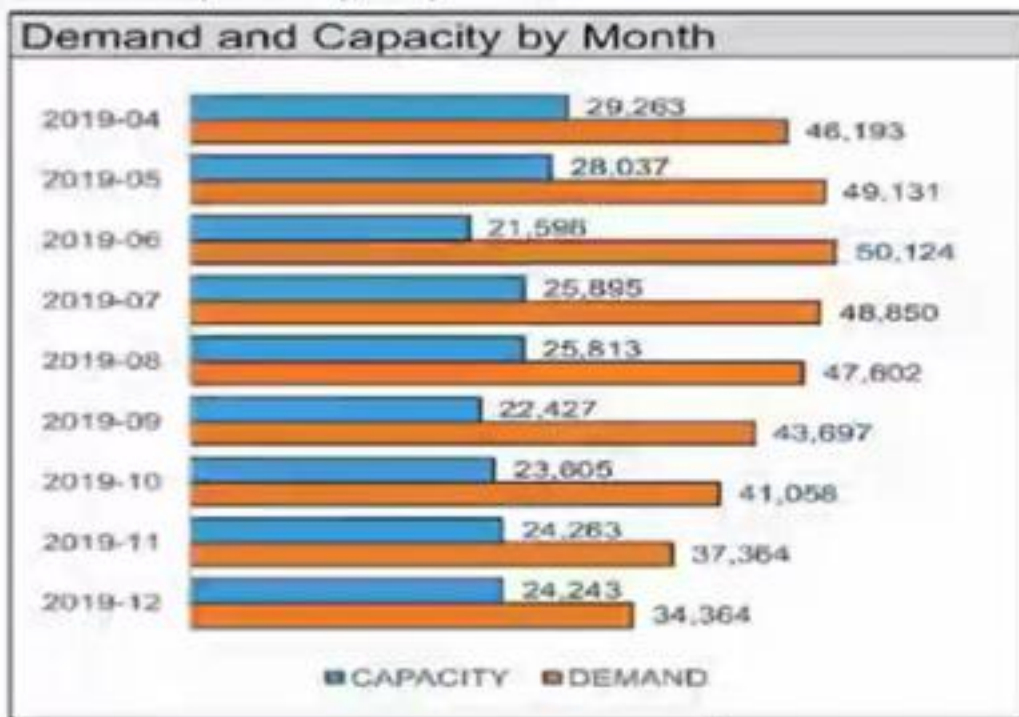
Is this the only way to show this data?

Demand and Capacity by Month



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Demand and Capacity by Month



Is this the only way to show this data?

Vertical Bars

Demand vs capacity over time

DEMAND CAPACITY



Vertical Bars

Demand vs capacity over time

DEMAND CAPACITY



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Vertical Bars

Demand vs capacity over time

DEMAND CAPACITY



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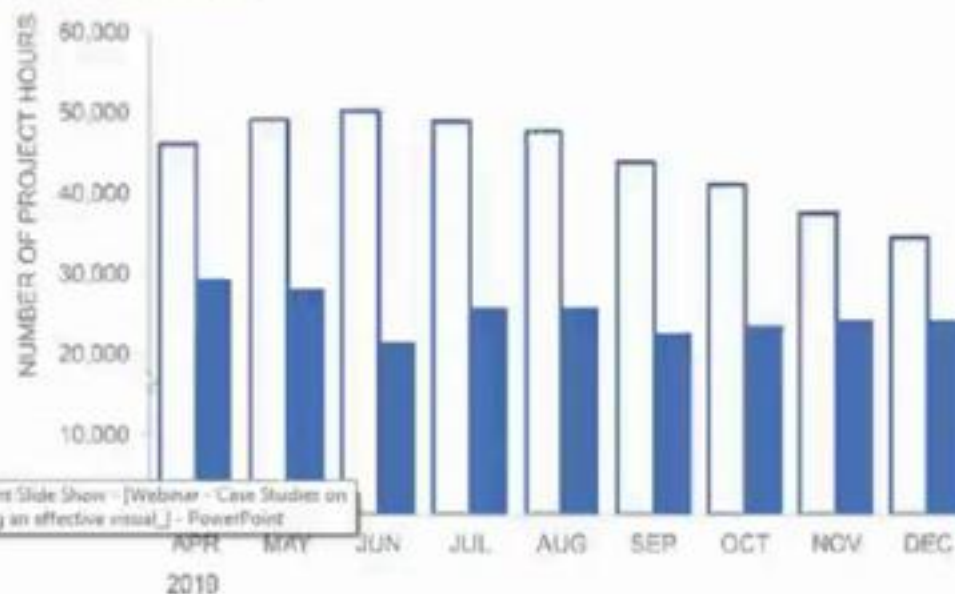
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Vertical Bars

Demand vs capacity over time

DEMAND CAPACITY



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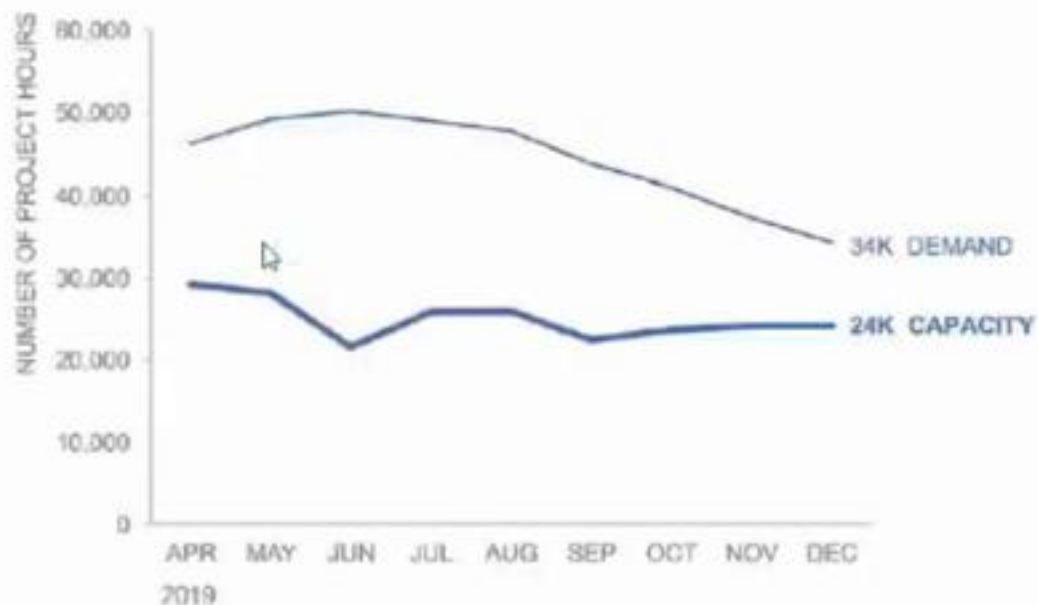
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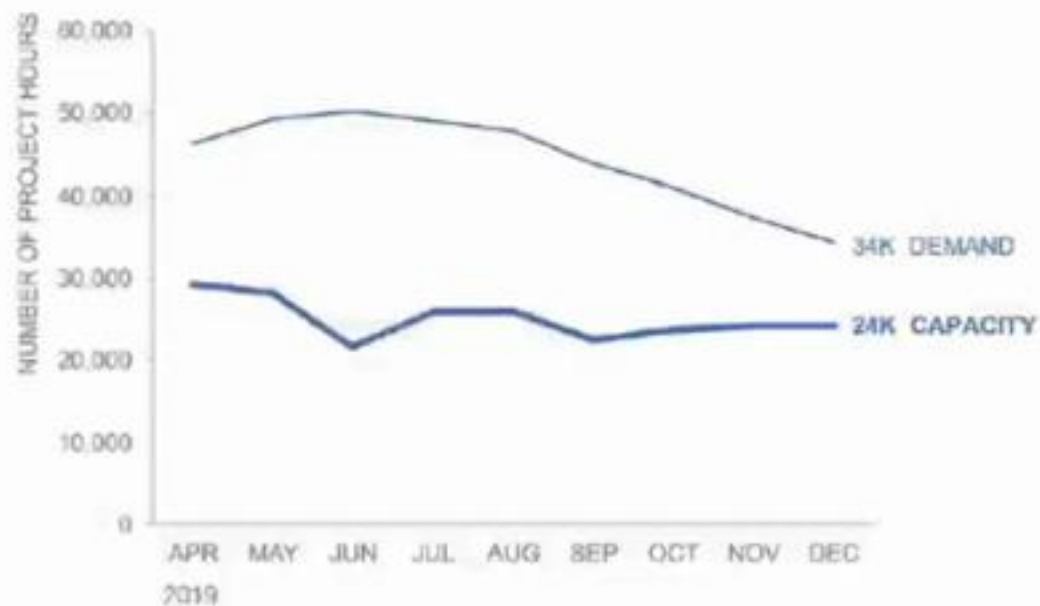
Line Chart

Demand vs capacity over time



Line Chart

Demand vs capacity over time



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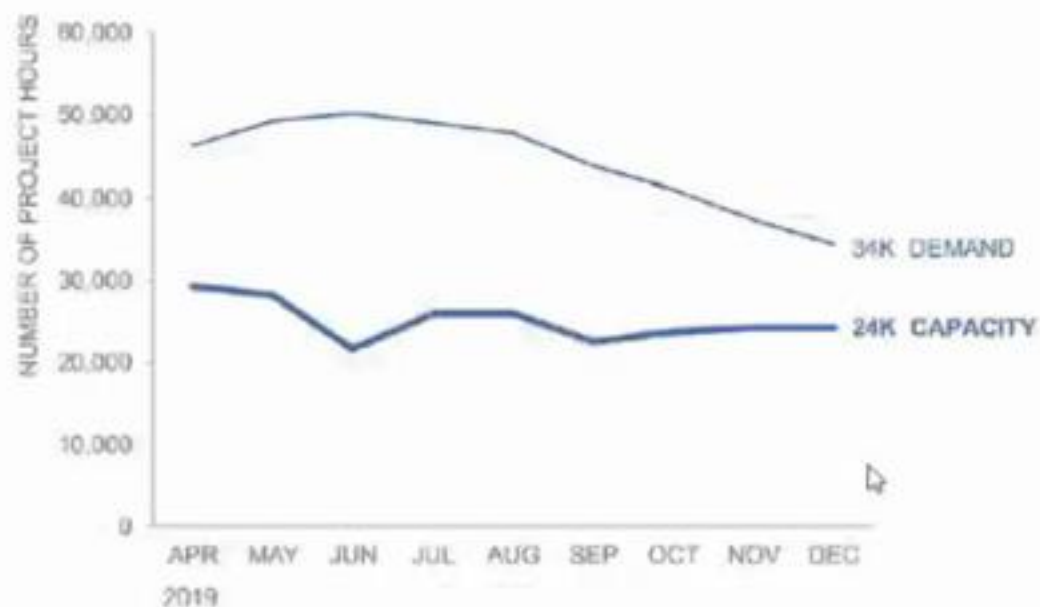
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Demand vs capacity over time



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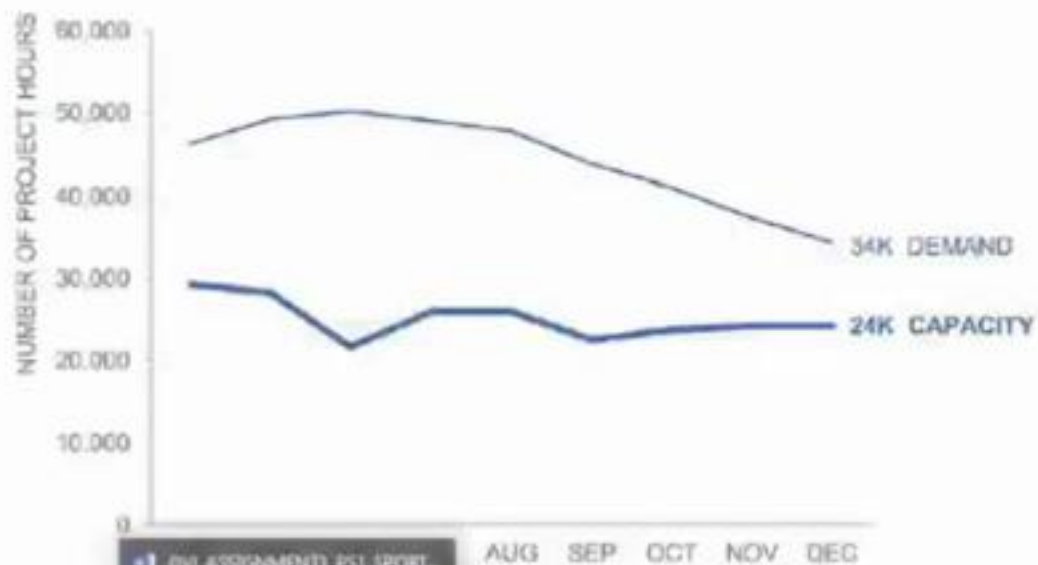
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Line Chart

Demand vs capacity over time



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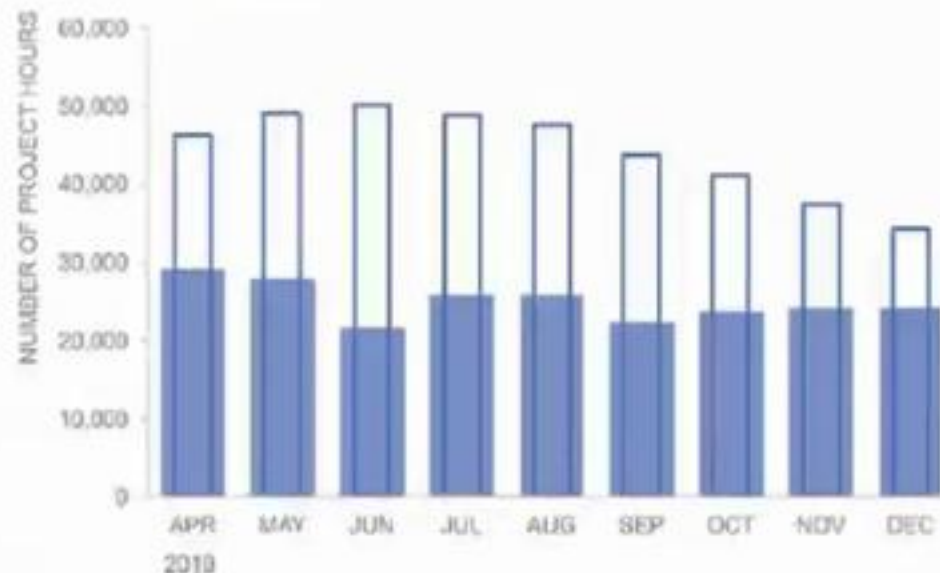
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Overlapping Bars

Demand vs capacity over time

DEMAND | CAPACITY



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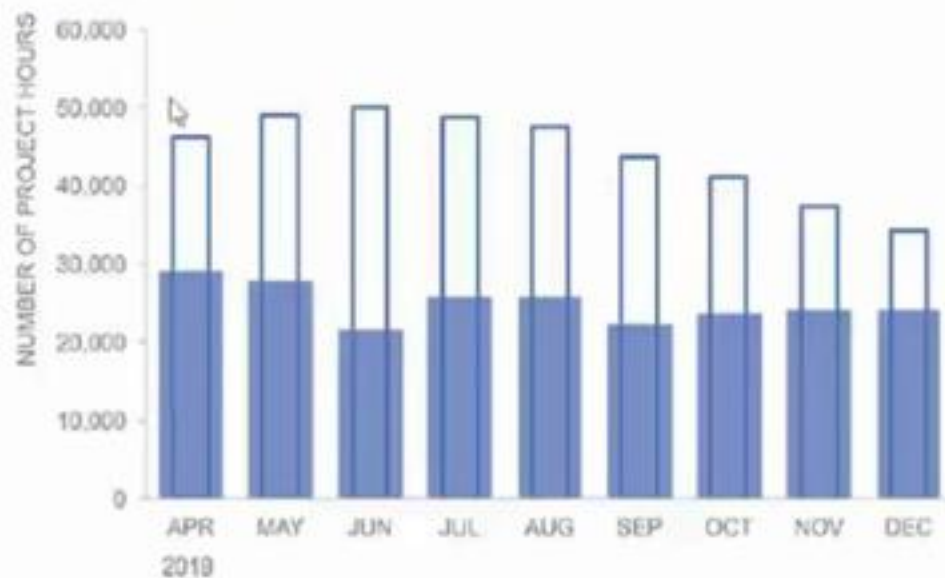
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Overlapping Bars

Demand vs capacity over time

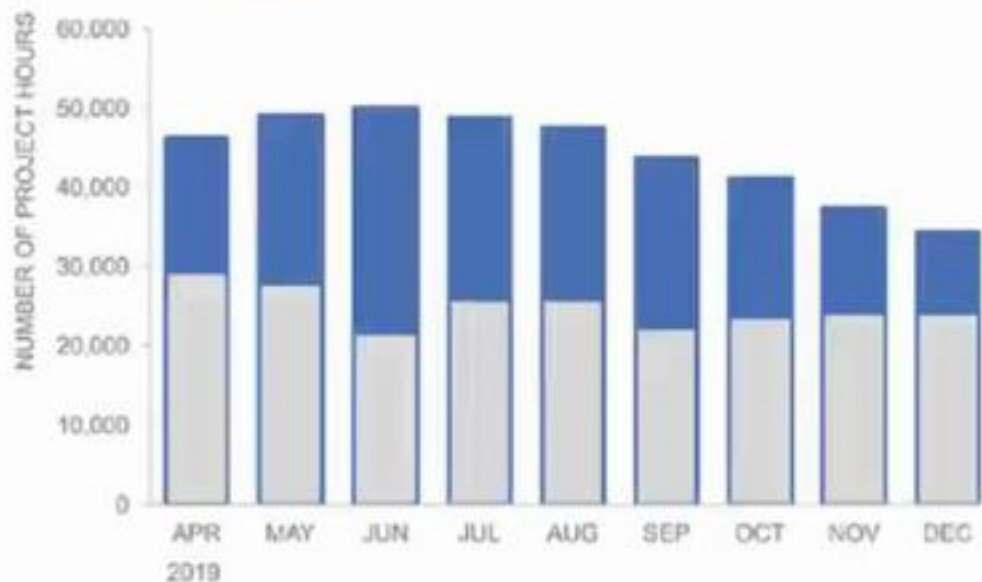
DEMAND | CAPACITY



Stacked Bars

Demand vs capacity over time

CAPACITY | UNMET DEMAND



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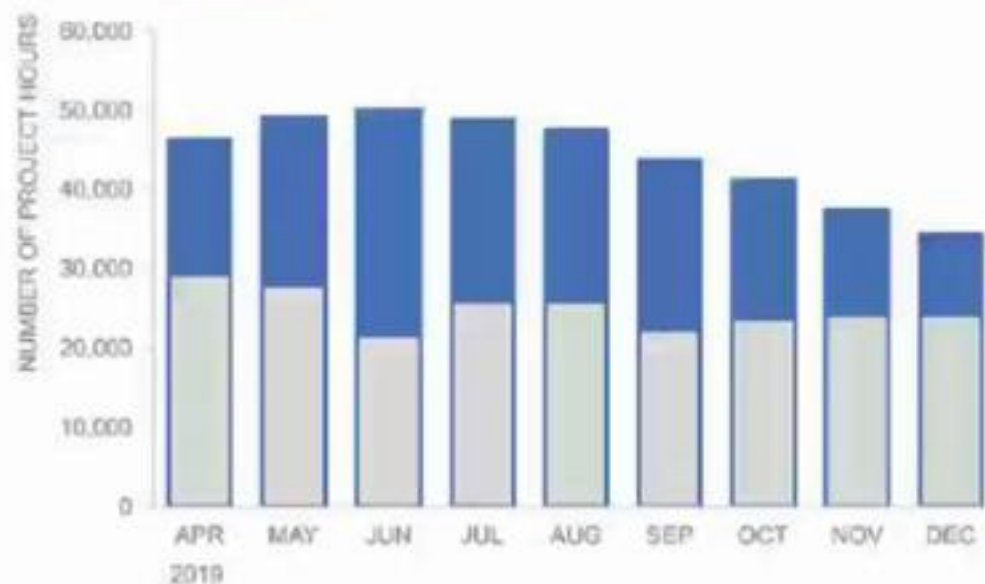
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Stacked Bars

Demand vs capacity over time

CAPACITY | UNMET DEMAND



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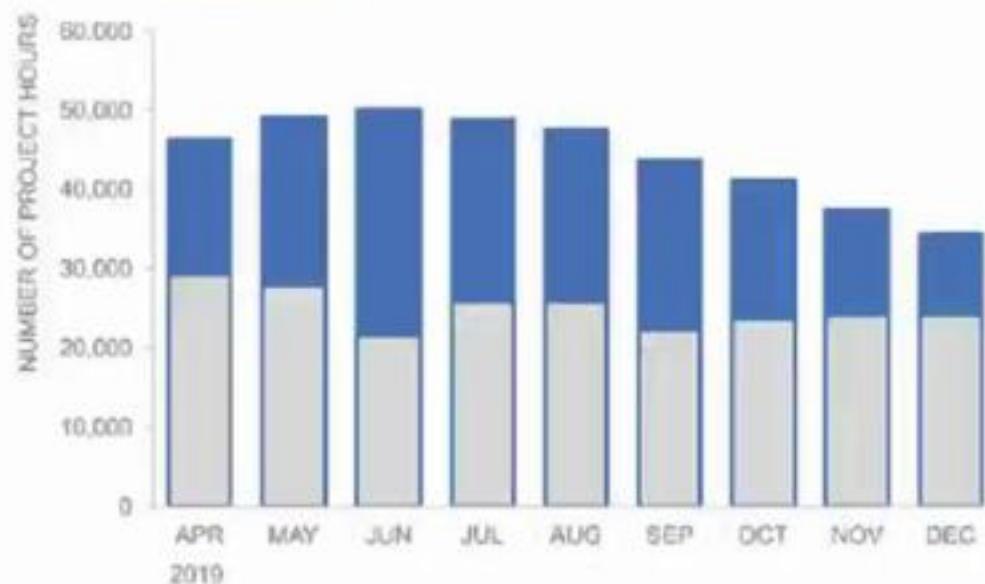
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Stacked Bars

Demand vs capacity over time

CAPACITY | UNMET DEMAND



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Dot Plot

Demand vs capacity over time



Dot Plot

Demand vs capacity over time



Dot Plot

Demand vs capacity over time



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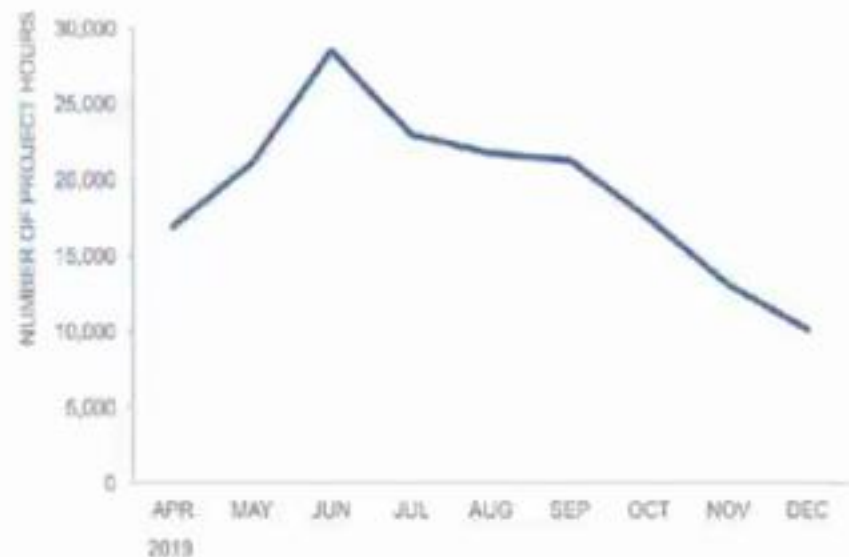
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Unmet Demand

Unmet demand over time



Which type of visuals would you prefer for the given data?

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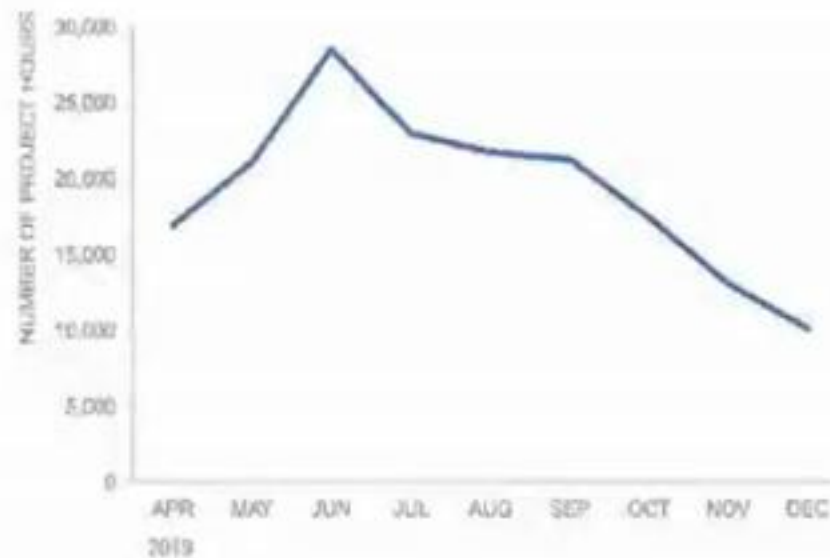
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Unmet Demand

Unmet demand over time



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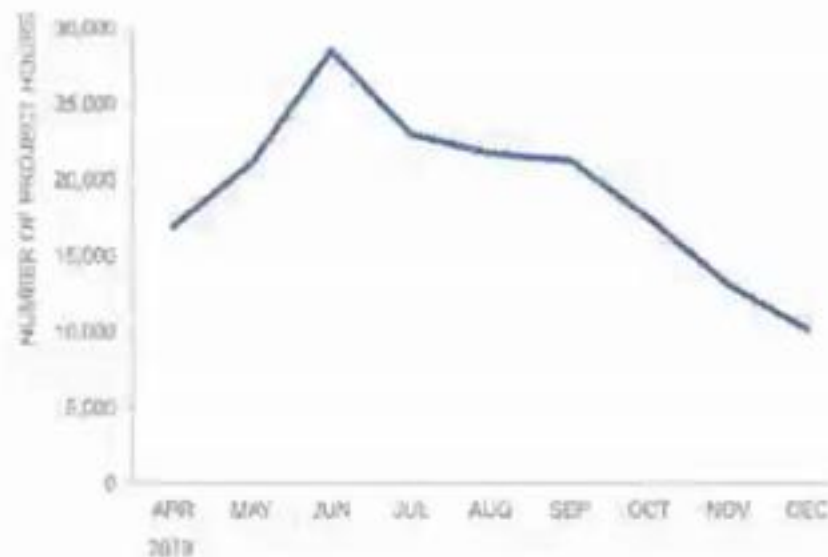
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Unmet Demand

Unmet demand over time



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Attrition Rate

Year	Attrition Rate
2019	9.1%
2018	8.2%
2017	4.5%
2016	12.3%
2015	5.6%
2014	15.1%
2013	7.0%
2012	1.0%
2011	2.0%
2010	9.7%
AVG	7.5%

1. How many different ways can you come up with to show this data?
2. How would you show the average in various graphs that you created?

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Dot/Scatter Plot

Attrition rate over time



Dot/Scatter Plot

Attrition rate over time



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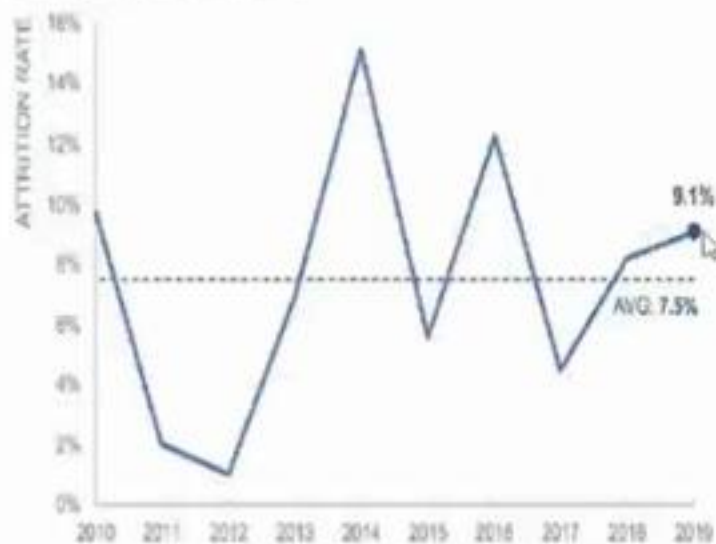
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Line Chart

Attrition rate over time

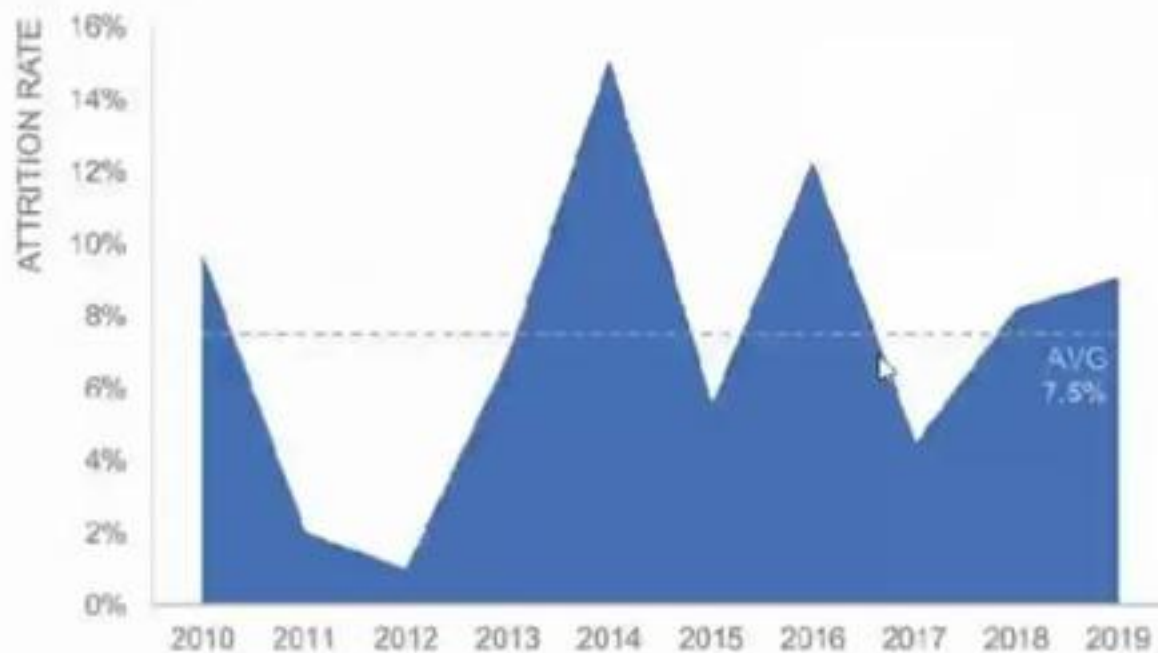


Attrition rate over time



Area Graph

Attrition rate over time



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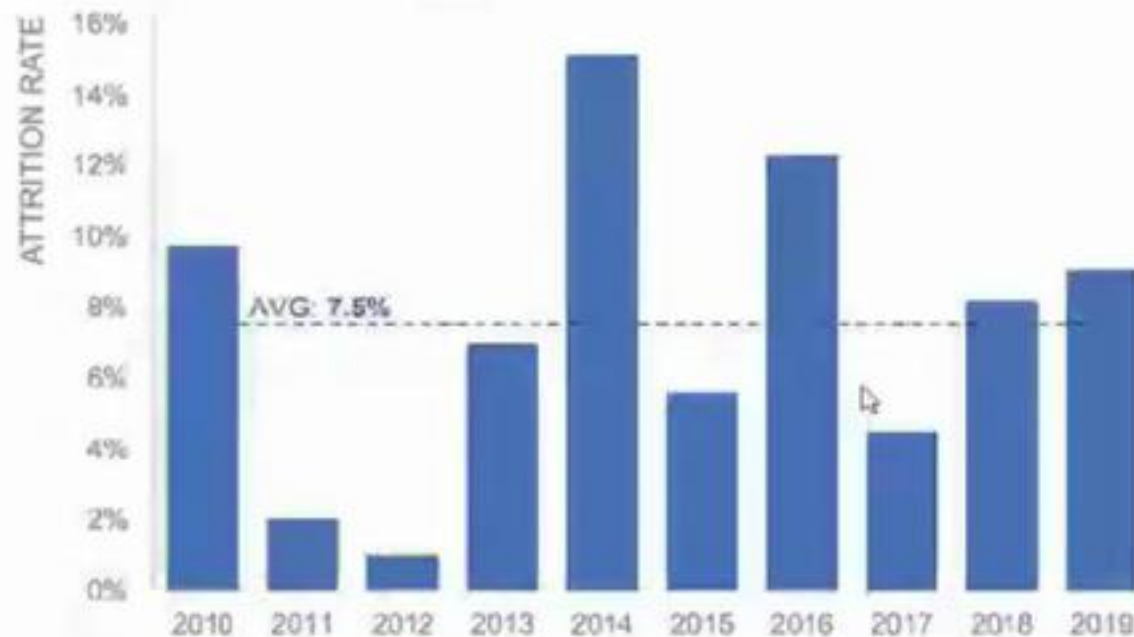
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Bar Graph

Attrition rate over time



Which of the visuals do you like the best and why?



Source: *Journal of the American Medical Association*, 2000, 284: 1365-1368.

Work Integrated Learning Programmes Division
MLTech (Data Science and Engineering)

**Data Visualization & Interpretation
(DSECL ZG555)**
First Semester, 2021-22

Assignment 1 – PS1 - [SPORTS DATA ANALYSIS] - [Weightage 12%]

1. Problem Statement

Here are the results of a detailed analysis to decide once-and-for-all which of the world's sports is the most demanding. The folks at 'Page 2' on the ESPN site did the analysis. It was not just based on personal opinion, they got together a bunch of experts and ranked a range of attributes (endurance, strength, power, speed, agility, flexibility, hand-eye coordination, nerve, durability and analytic aptitude).

Survey Results



M.Tech (Data Science and Engineering)

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Survey Results



You have been consulted to present these survey results to the Students from 10 Top Sports colleges in India. With the given context, you need to create a dashboard using TABLEAU. (Use the concepts learnt from the course)

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BITS Pilani
Pioneer Group One Hyderabad

Work Integrated Learning Programmes Division
M.Tech (Data Science and Engineering)

Data Visualization & Interpretation
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[Survey Results](#)

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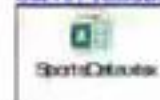
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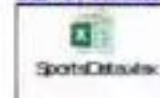
Survey Results



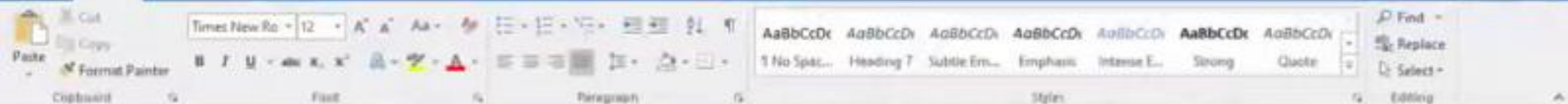
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The objectives include

Demonstrate the VISUALISATION CONTEXT

1. **WHO? KNOW YOUR AUDIENCE** (First question is answered for you)

- List the primary groups or individuals to whom you'll be communicating.
Students from 10 Top Sports colleges in India
- If you had to narrow that to a single person, who would that be?
- What does your audience care about?
- What action does your audience need to take?
- What is at stake? What is the benefit if the audience acts in the way you want them to? What are the risks if they don't?

2. WHAT?

- What are you trying to communicate? What questions are you trying to answer/display in your visualizations? Write these as specific questions. You need to come up with 3 questions at least, each of which will be answered using one Viz.
- Data preparation needed to answer the specific queries must be done.

3. Present the BIG IDEA.

- It should: (1) articulate your point of view, (2) convey what's at stake, and (3) be a

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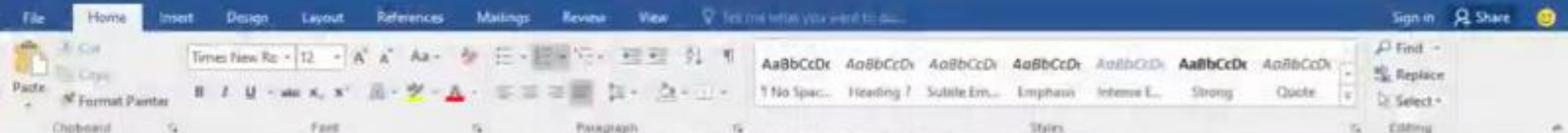
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Students from 10 Top Sports colleges in India

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4. HOW?

- a. Chart 1: What type of viz did you create? Why did you select the viz that you did?
- b. Chart 2: What type of viz did you create? Why did you select the viz that you did?
- c. Chart 3: What type of viz did you create? Why did you select the viz that you did?
- d. Explain the most complex visualization or chart type employed.

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- d. What action does your audience need to take?
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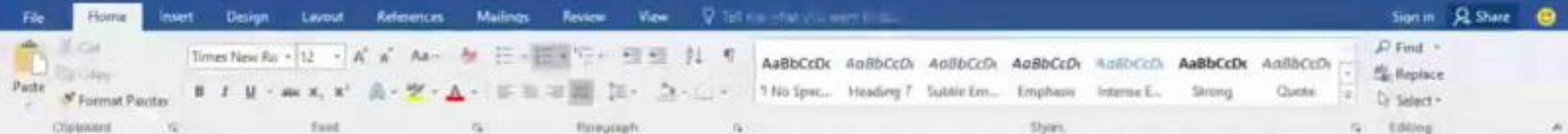
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- c. Chart 3: What type of viz did you create? Why did you select the viz that you did?
- d. For each of the Visualisation, identify at least 3 Gestalt principles employed
- e. For each of the Visualisation, mention how you strategically used pre-attentive attributes to draw the audience's attention.

5. Create your dashboard



2. Deliverables

Zipped file containing

1. The word doc with answers to question 1 through 4 above.
2. The tableau workbook(twbx) with 3 Sheets(Each sheet should have 1 visual) and 1 Dashboard comprising all three visuals
3. The source file after preprocessing (if any).

The file name should be the respective group name.

3. Deadline

- The strict deadline for submission of the assignment is < **December 26, 2021**> **EoD**.
- Late submissions won't be evaluated.

4. How to submit

- This is a group assignment.
- Each group consists of up to 3 members. All members of the group will work on the same problem statement.
- Each group should zip the deliverables and upload in CANVAS in respective locations under ASSIGNMENT Tab.
- Assignment submitted via means other than through CANVAS will not be graded

5. Evaluation

SL	Criteria
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- Late submissions won't be evaluated

4. How to submit

- This is a group assignment.
- Each group consists of up to 3 members. All members of the group will work on the same problem statement.
- Each group should zip the deliverables and upload in CANVAS in respective locations under ASSIGNMENT Tab.
- Assignment submitted via means other than through CANVAS will not be graded.

5. Evaluation

SL	Criteria
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1. The word doc with answers to question 1 through 4 above.
2. The tableau workbook(twb) with 3 Sheets(Each sheet should have 1 visual) and 1 Dashboard comprising all three visuals.
3. The source file after preprocessing (if any).

The file name should be the respective group name

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Sl No	Criteria	Description
1	Know your audience. (10%)	<ul style="list-style-type: none"> Getting to know our audience and understanding their

Zipped file containing

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Sl No	Criteria	Description
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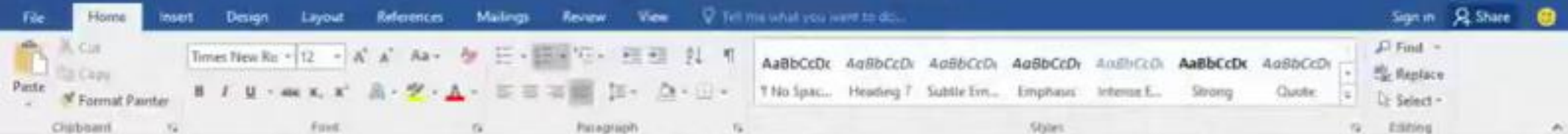
Sl No	Criteria	Description
1	Know your audience. (10%)	<ul style="list-style-type: none"> • Getting to know our audience and understanding their needs and what drives them is an important early part of the process for successfully communicating with data.
2	WHAT? Effective For	<ul style="list-style-type: none"> • Identify what needs to be communicated very clearly

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Sl. No	Criteria	Description
1	Know your audience. (10%)	<ul style="list-style-type: none"> • Getting to know our audience and understanding their needs and what drives them is an important early part of the process for successfully communicating with data.
2	WHAT? Effective Formulation of Contextual Questions (25%)	<ul style="list-style-type: none"> • Identify what needs to be communicated very clearly and frame the questions accordingly justifying the context.

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5. Evaluation

Sl No	Criteria	Description
1	Know your audience (10%)	<ul style="list-style-type: none"> Getting to know our audience and understanding their needs and what drives them is an important early part of the process for successfully communicating with data.
2	WHAT? Effective Formulation of Contextual Questions (25%)	<ul style="list-style-type: none"> Identify what needs to be communicated very clearly and frame the questions accordingly justifying the context.
3	BIG IDEA (10%)	<ul style="list-style-type: none"> The Big idea can help us get clear and succinct on the main message we want to get across to our audience.
4	Choice of appropriate visuals (25%)	<ul style="list-style-type: none"> Identify the appropriate visuals for communicating the message.
5	No clutter in the visuals (10%)	<ul style="list-style-type: none"> The visuals presented should not have any unwanted clutter.

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