

Assignment Project Exam Help

INFS5700

Introduction to Business Analytics

<https://powcoder.com>

Week 2: Data Visualization and
Add WeChat powcoder
Communication 1

(T2 2022)

Agenda

- Recap on Week 1 topic – Business Analytics in Context
Assignment Project Exam Help
- A Simple Approach to Build a Good Chart
<https://powcoder.com>
Add WeChat powcoder
- SAS Viya for Learners Demo

Communication Housekeeping

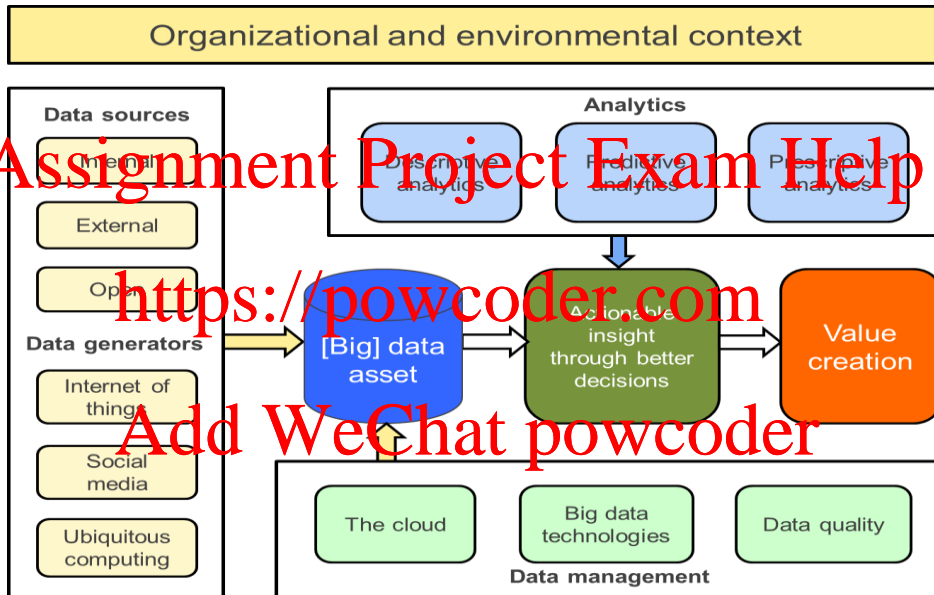
- We do not respond to e-mails/tend to Moodle outside of standard work hours
 - There are possible exceptions, e.g., dealing with SAS VA breaking down
 - Do your prep work before the weekend, if you think you will have questions
- Please make sure you read ALL announcements and the Q&A forum
 - If we have answered a question already in the Q&A or announcement forum, then we will just re-direct you there, so reading them beforehand will save time
 - It's university policy that we only respond to UNSW e-mail address
- We appreciate that many people answered forum questions and encourage all to do so

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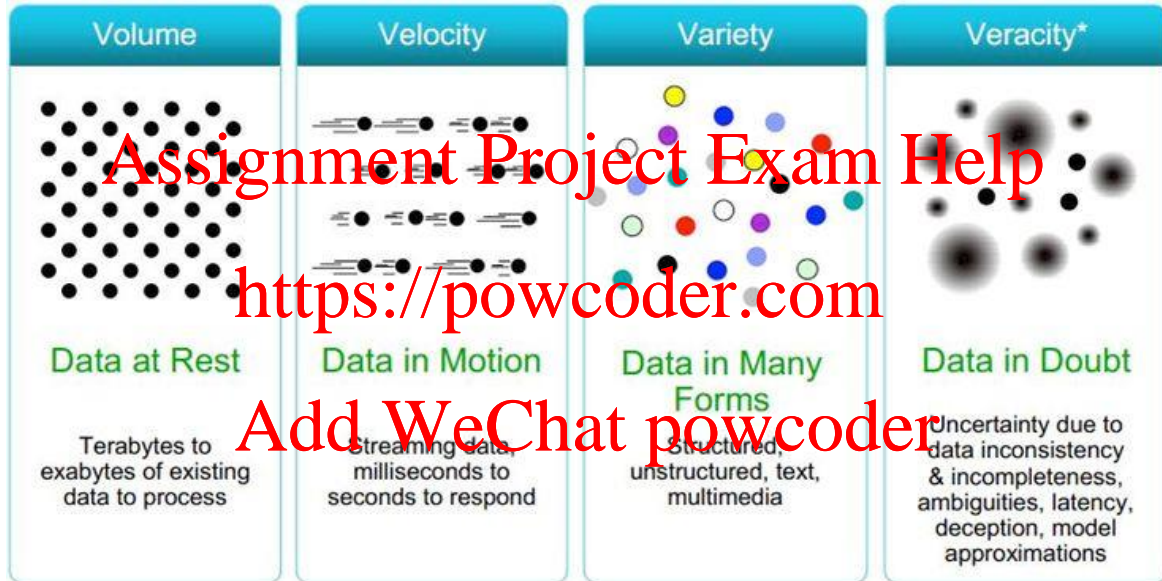
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Recap: A Framework for Business Analytics



Recap: The Four V's of Big Data



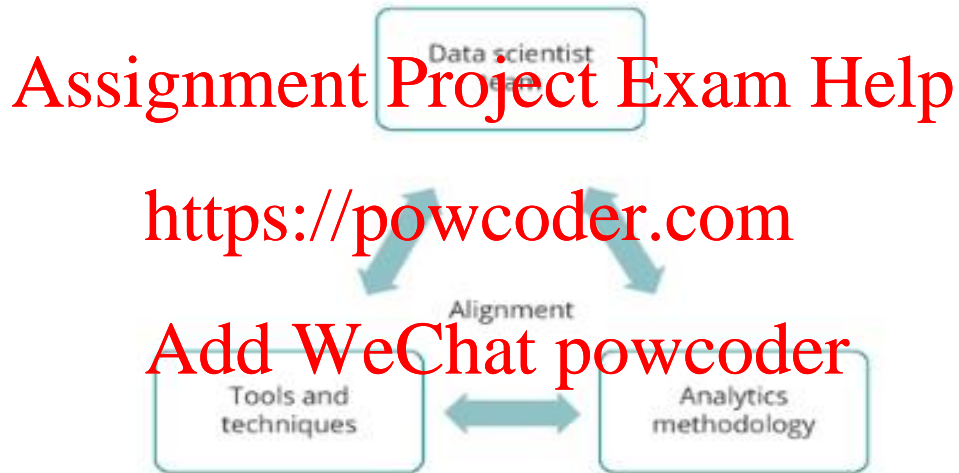
Recap: Types of Analytics

- *Descriptive*
 - Which customers are most profitable?
- *Predictive*
 - Which customers are likely to churn?
- *Prescriptive*
 - What action should be taken for customers with a high probability of churning?

Type of Analytics	Questions Answered	Techniques Used
Prescriptive Analytics	How can the best be realized? What all is involved in this happening? What is the best that can happen?	Optimization Simulation MCDM/Heuristics
Predictive Analytics	What else are most likely to happen? How else will it happen? How long will it continue to happen?	Data/text Mining Forecasting Statistical Analysis
Descriptive Analytics	How am I doing? Why is it happening? What all is happening?	Dashboards Scorecards
	Who all are involved in it? How often does it happen? Where did it happen?	Ad-hoc Reports
	What happened?	Standard Reports

Degree of Analytics Sophistication and Intelligence

Recap: Core Elements of Business Analytics Development Function



Why Data Visualization?

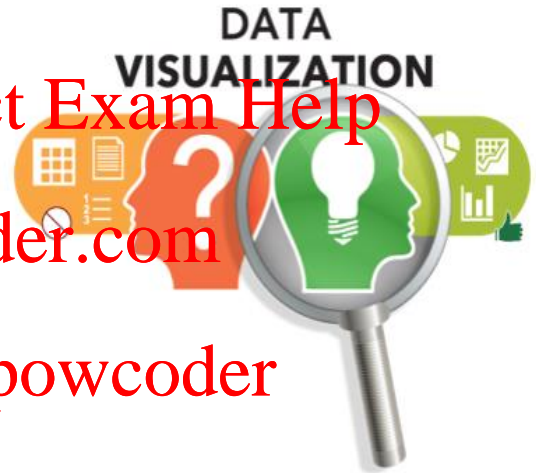
- The way the human brain processes information

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- A quick, easy way to convey difficult concepts or identify new patterns, trends, and outliers

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Which of the following 14 people is tallest?

Person #	1	2	3	4	5	6	7
Height	172	186	186	194	177	173	174
Person #	8	9	10	11	12	13	14
Height	189	191	188	166	174	179	173

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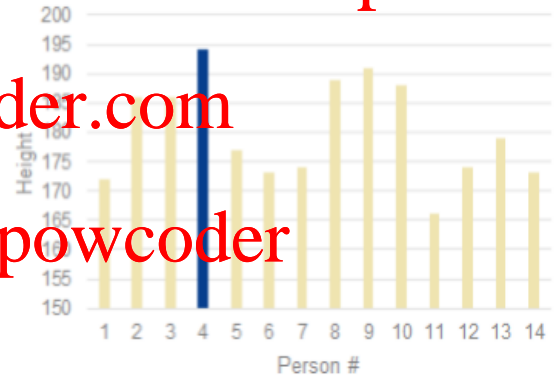
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Anscombe's Quartet example (1)

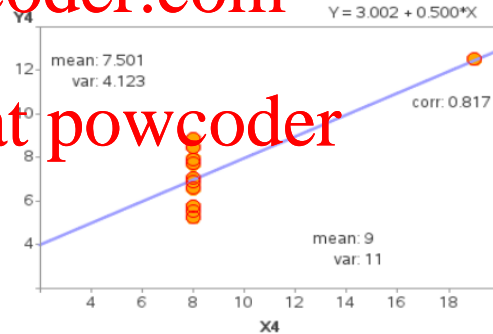
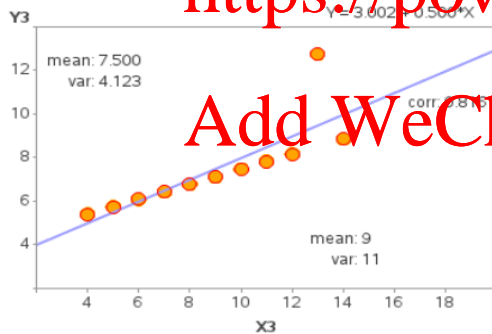
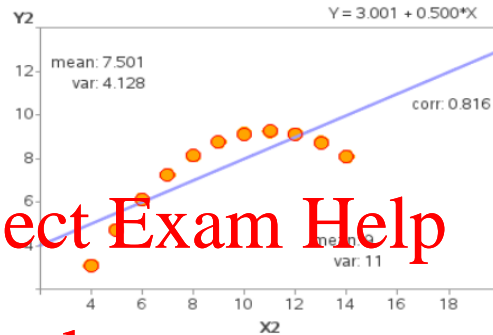
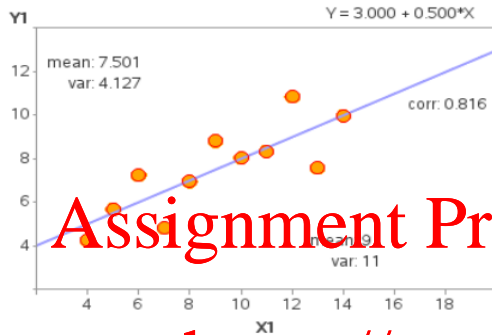
DATA SETS									
Data Set 1		Data Set 2		Data Set 3		Data Set 4			
10	8.04	10	9.14	10	7.46	8	6.58		
8	6.95	8	8.14	8	6.77	8	5.76		
13	7.58	13	8.74	13	12.74	8	7.71		
9	8.81	9	8.77	9	7.11	8	8.84		
11	8.33	11	9.26	11	7.81	8	8.47		
14	9.96	14	8.1	14	8.84	8	7.04		
6	7.24	6	6.13	6	6.08	8	5.25		
4	4.26	4	3.1	4	5.39	8	5.56		
12	10.84	12	9.22	12	6.16	8	7.91		
7	4.82	7	7.26	7	6.42	8	6.89		
5	5.68	5	4.74	5	5.73	19	12.5		

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Anscombe's Quartet example (2)

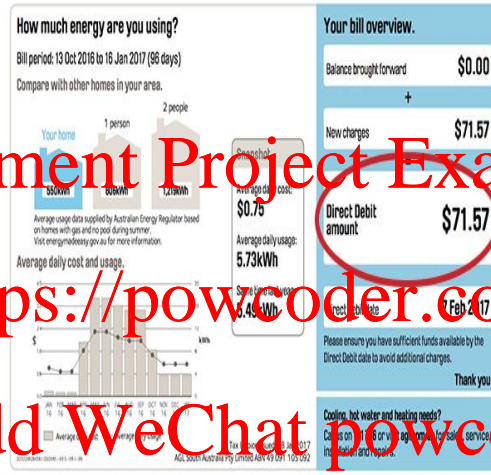
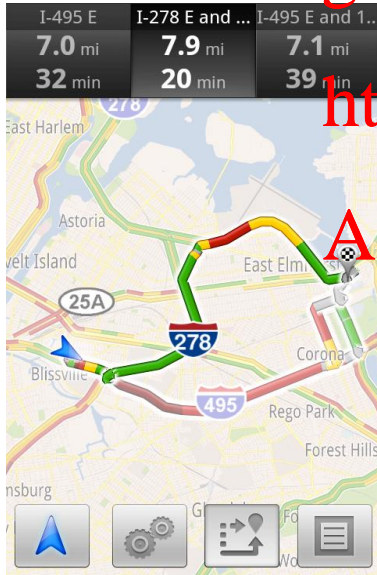


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Data visualization is everywhere



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“

Your data is only as good as
your ability to understand and communicate it, which
is why choosing the right visualization is essential.

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–Data Visualization 101

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A simple approach to build a Good Chart

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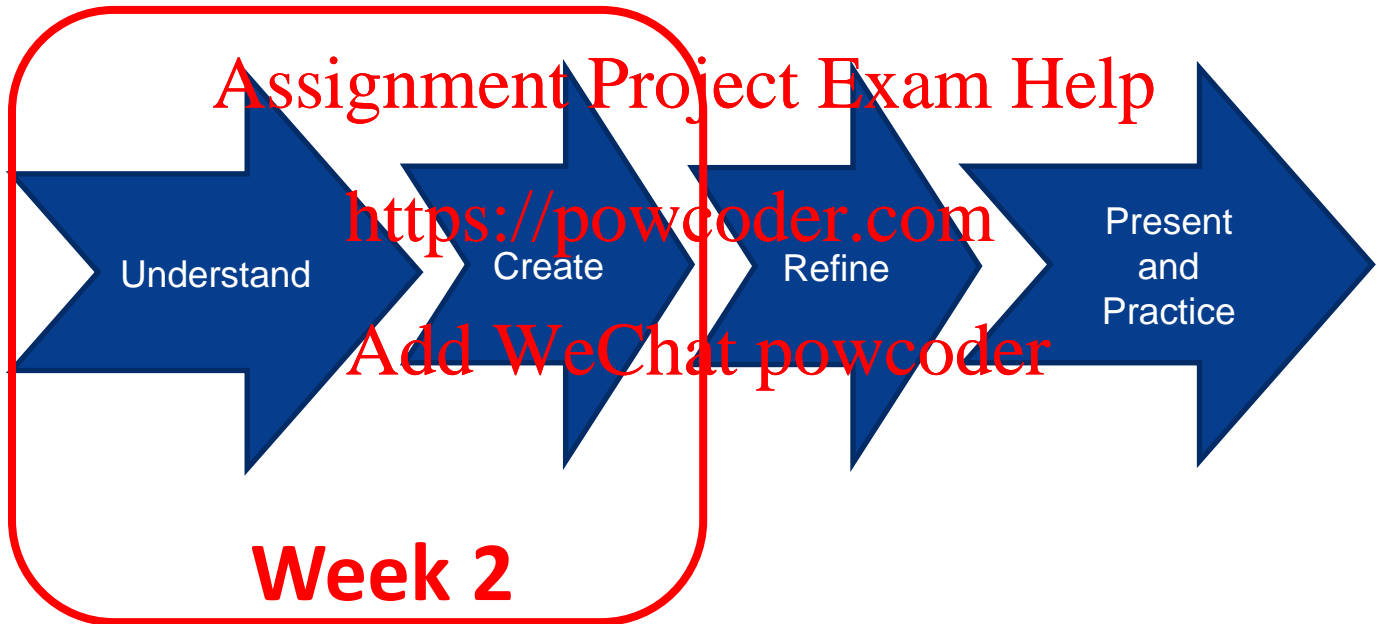
Understand

Create

Refine

Present
and
Practice

A simple approach to build a Good Chart



A simple approach to build a Good Chart

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Understand

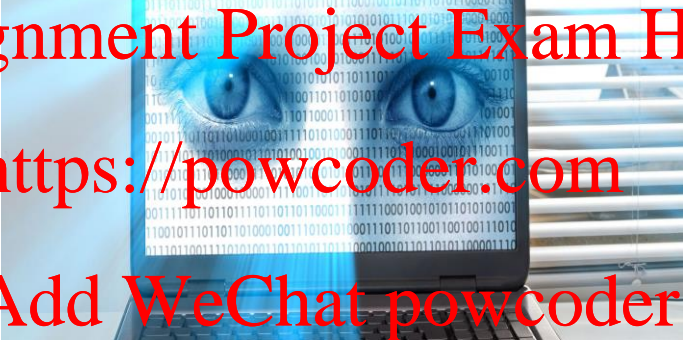
Create

Refine

Present
and
Practice

Week 3

Understand the Science of How We See



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Understand the Science of How We See

1. We don't go in order

2. We see first what stands out

3. We see only a few things at once

4. We seek meaning and make connections

5. We rely on conventions and metaphors

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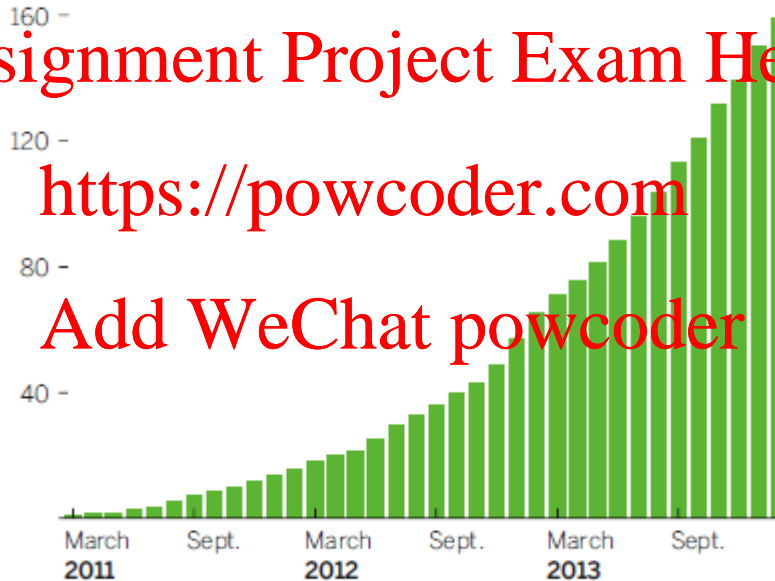
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We don't go in order

PLUG-IN VEHICLES: THE FIRST THREE YEARS

CUMULATIVE NUMBER OF VEHICLES SOLD, IN THOUSANDS



SOURCE: ADAPTED FROM PLOT.LY PLOT BASED ON DATA COMPILED BY BRETT WILLIAMS AND CHARTED AT FIGSHARE.COM

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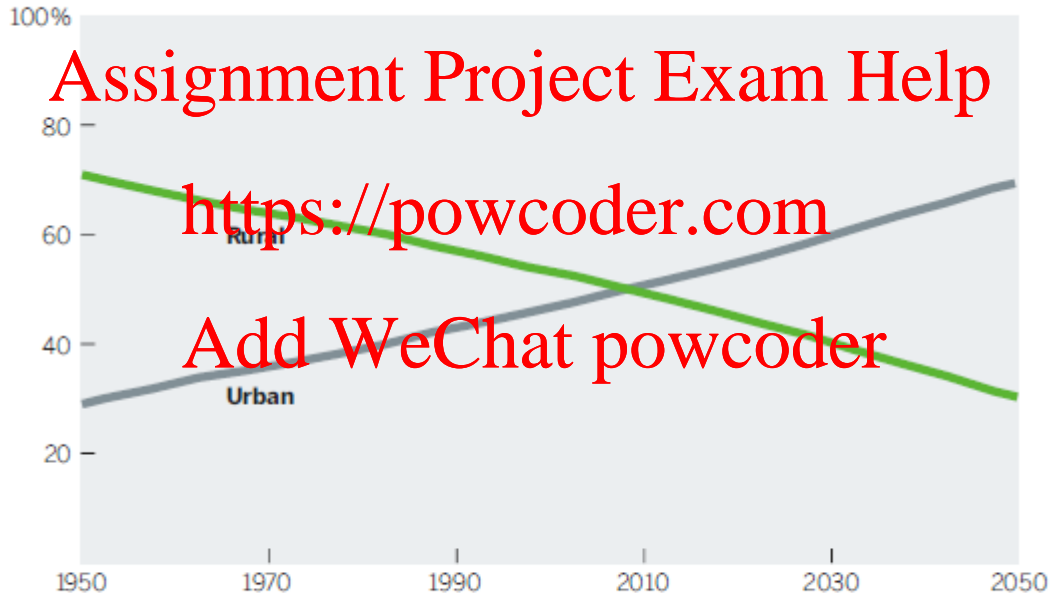
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We see first what stands out

PERCENTAGE OF WORLD POPULATION
LIVING IN URBAN AND RURAL AREAS



SOURCE: UNITED NATIONS, DEPARTMENT OF ECONOMIC
AND SOCIAL AFFAIRS, POPULATION DIVISION (2014)

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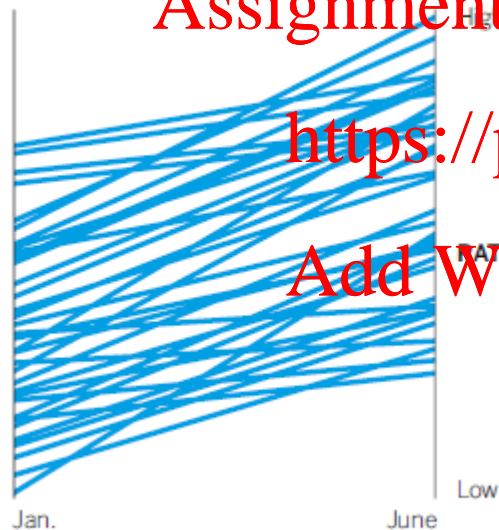
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TEAM PERFORMANCE

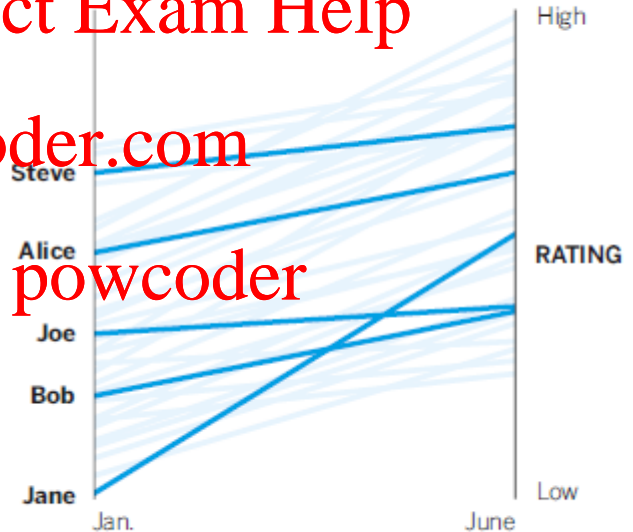
BLUE TEAM PERFORMANCE



SOURCE: COMPANY RESEARCH

TEAM PERFORMANCE

HIGHLIGHTING INDIVIDUALS



SOURCE: COMPANY RESEARCH

Understand the Science of How We See

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3. **<https://powcoder.com>**

4. **Add WeChat powcoder**

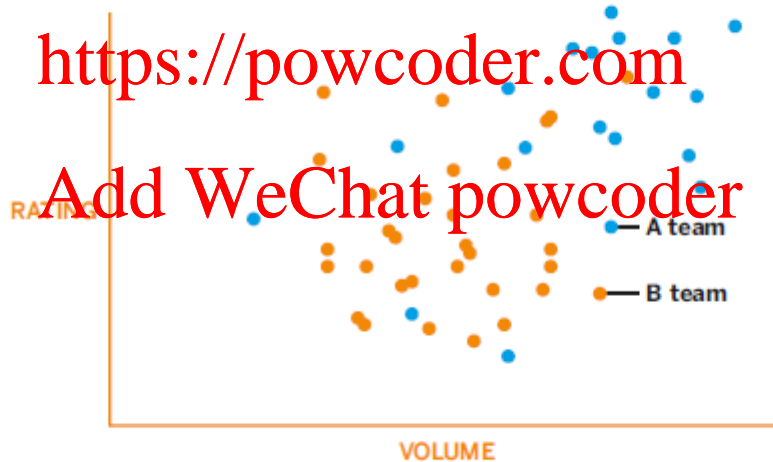
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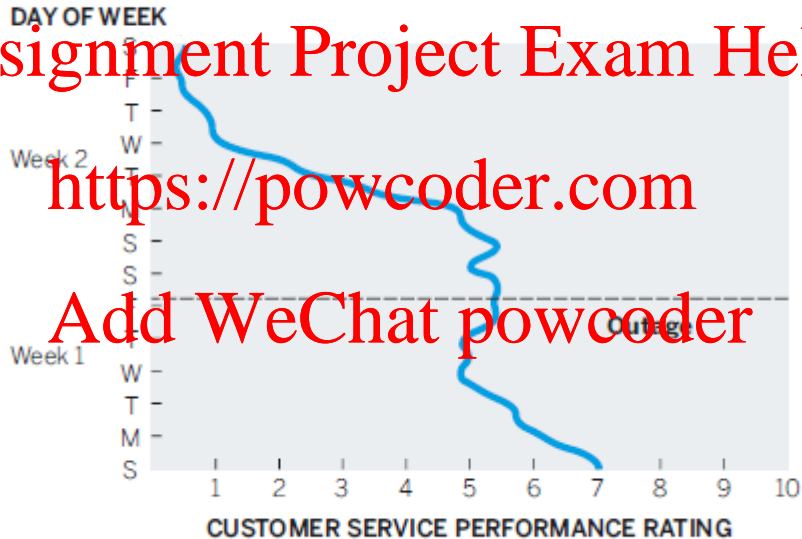
3. **<https://powcoder.com>**

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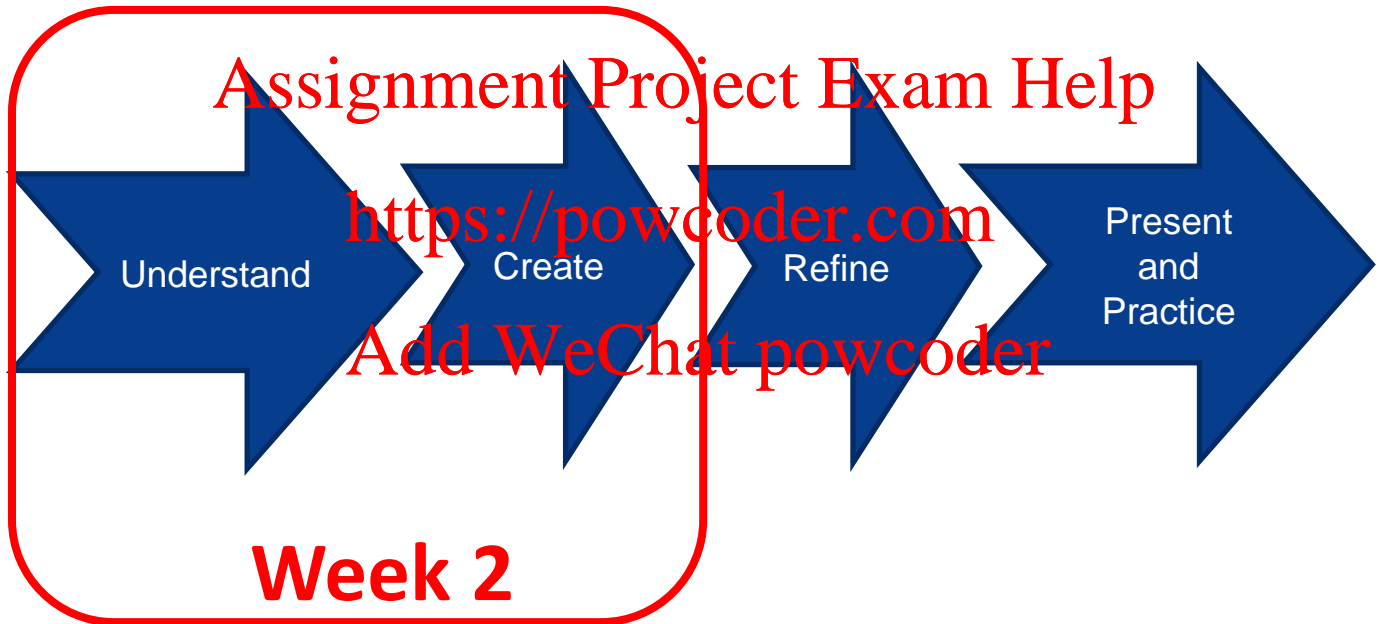
We rely on conventions and metaphors

CUSTOMER SERVICE RATING



SOURCE: COMPANY RESEARCH

A simple approach to build a Good Chart



Consider two questions before create visualization...

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Is the information conceptual or data-driven?
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- **Add WeChat powcoder**
Am I declaring something or exploring something?

Conceptual or data-driven ?

CONCEPTUAL

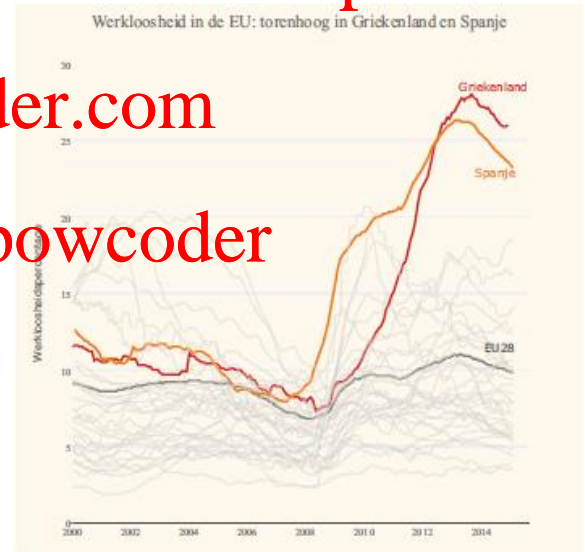
DATA-DRIVEN

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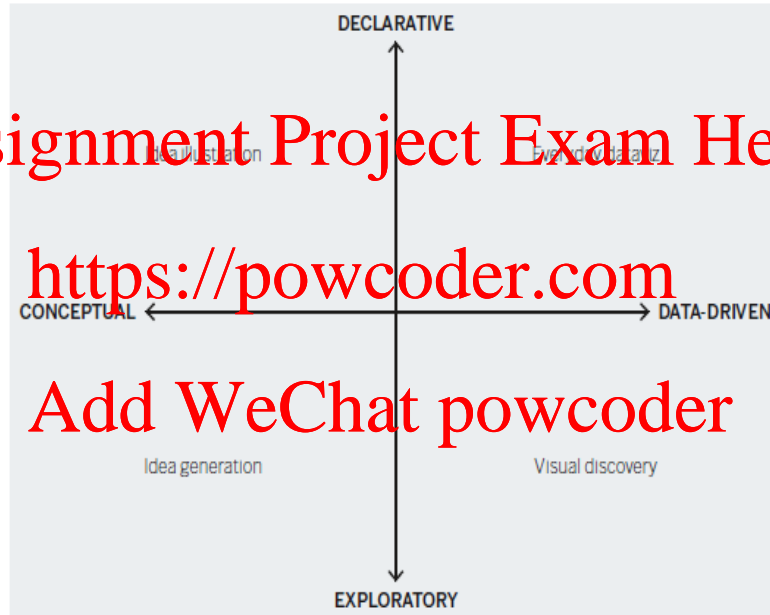
VS.



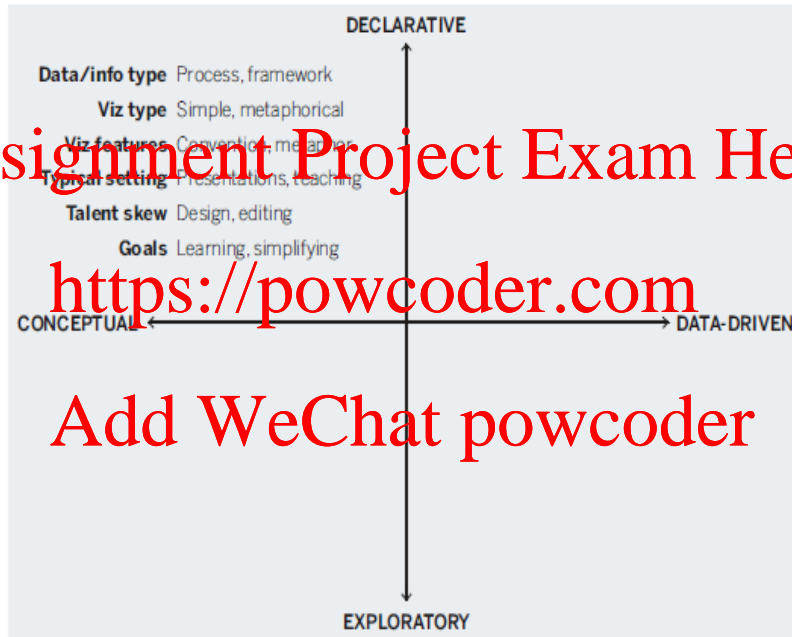
Declarative or exploratory ?

	DECLARATIVE	EXPLORATORY
Focus	Documenting, designing	Prototyping, iterating, interacting, automating
Goals	Affirm: "Here are our travelling expenses over the past five years."	Corroborate: "Let's see if marketing investments contributed to rising profits." Discover: "What would we see if we visualized customer purchases by gender, location, and purchase amount in real time?"

A Typology for Chart Making



Idea illustration



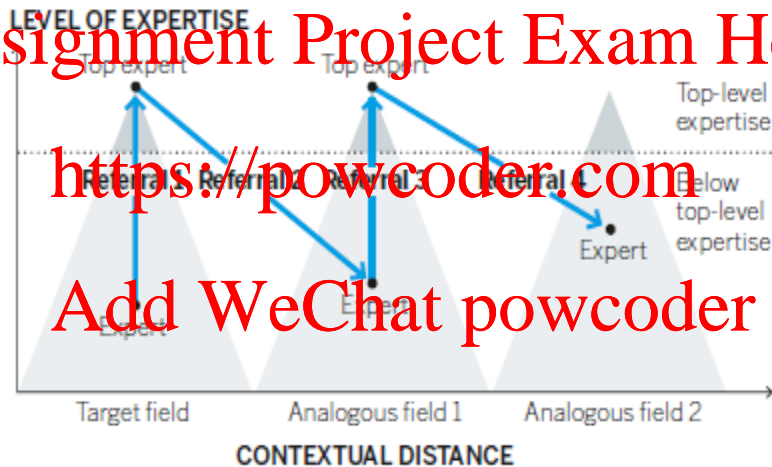
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Idea illustration: Example

CLIMBING PYRAMIDS IN SEARCH OF IDEAS



SOURCE: MARION POETZ AND REINHARD PRÜGL, JOURNAL OF PRODUCT INNOVATION MANAGEMENT

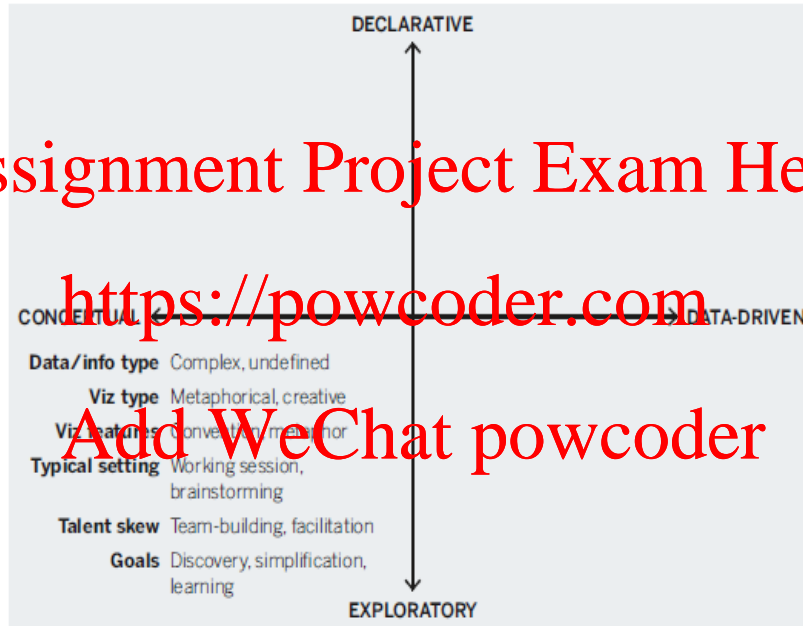
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Idea generation

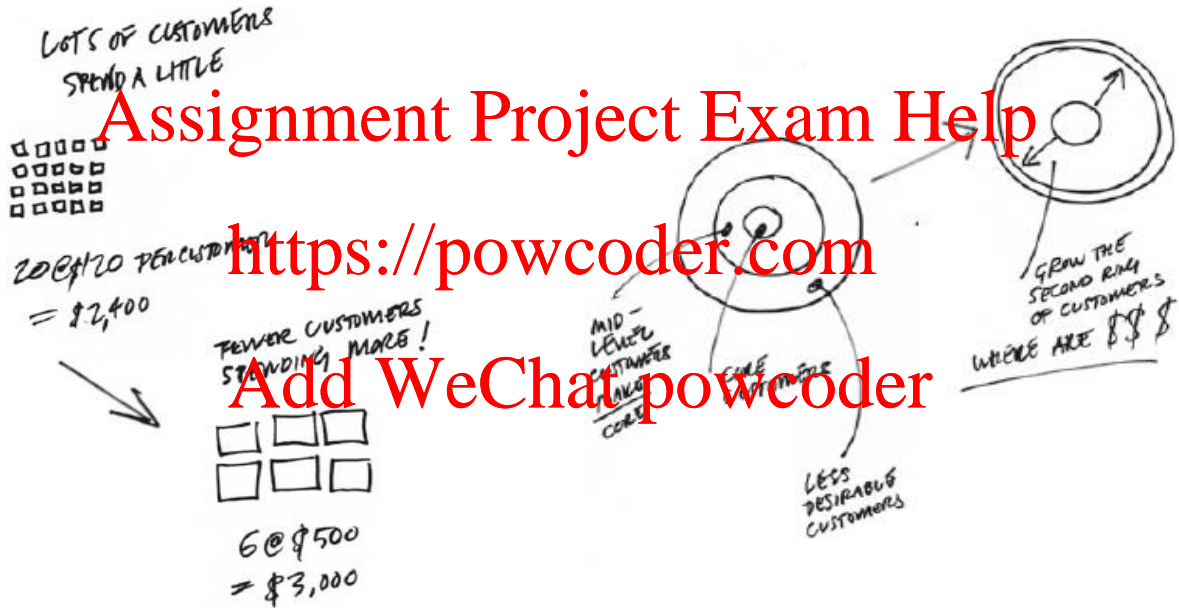
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Idea generation: Example

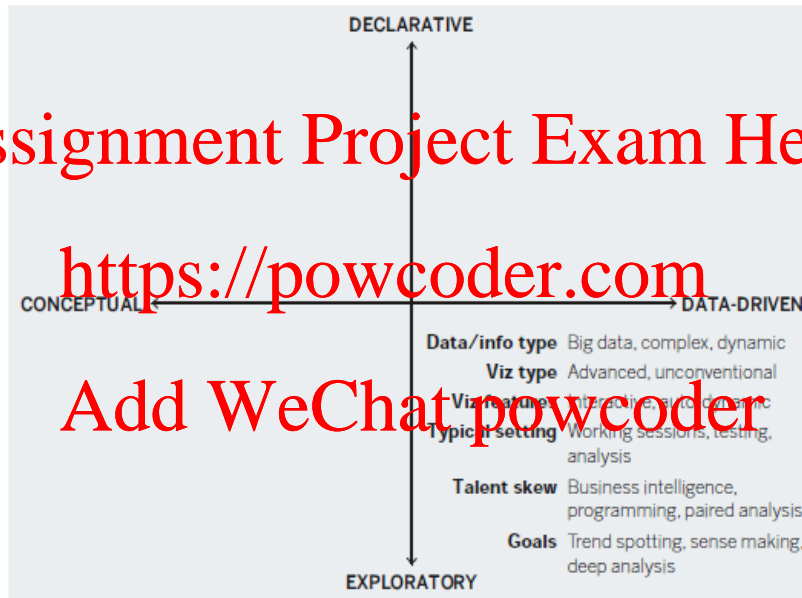


Visual discovery

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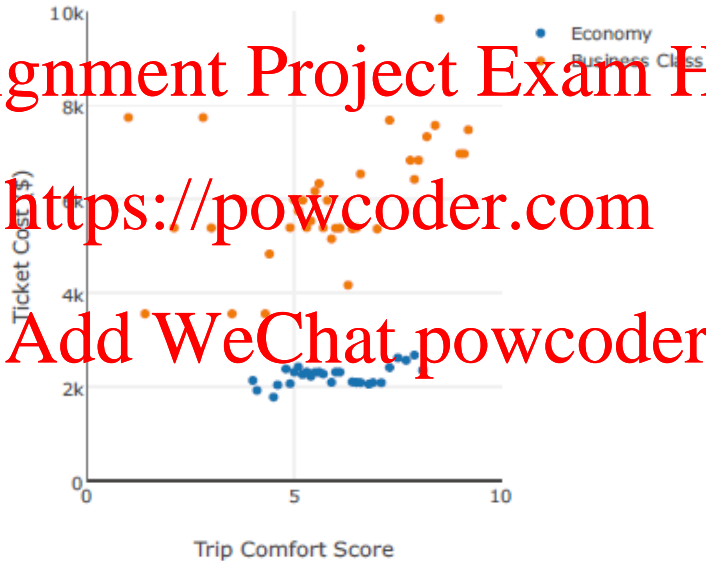
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Visual discovery

Flight Comfort vs. Ticket Cost



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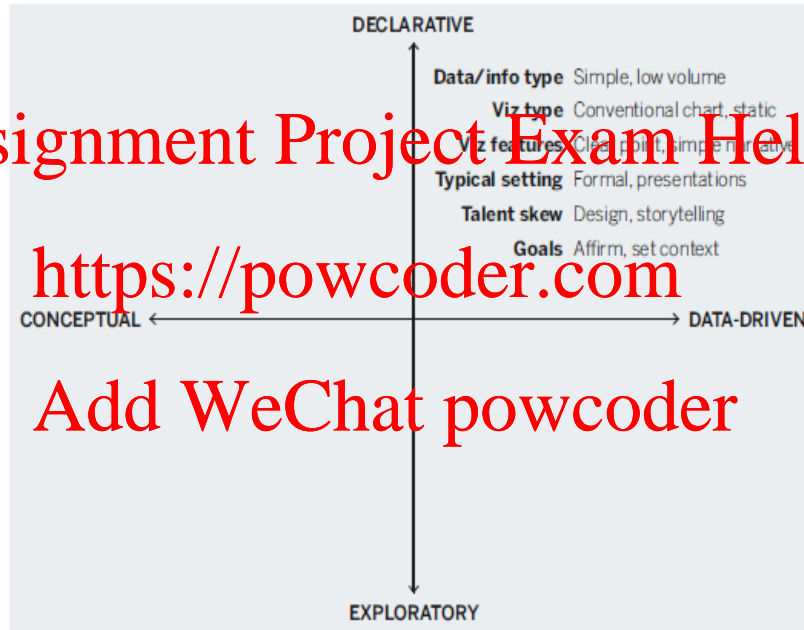
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Everyday dataviz

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Everyday dataviz

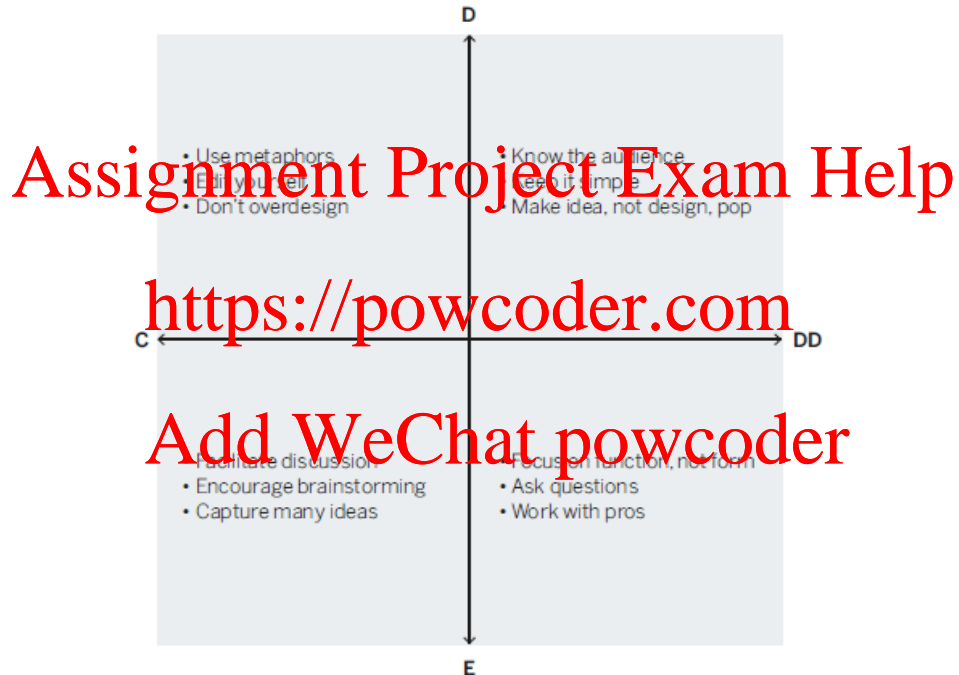
CHANGE IN HEALTH SPENDING AND GDP

PERCENTAGE CHANGE OVER PREVIOUS YEAR



SOURCE: ALTARUM

The Four Types...



How to Select the Right Type of Charts?

ABELA'S CHART TYPE HIERARCHY



SOURCE: ANDREW V. ABELA

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Questions?
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Demo with SAS Viya Assignment Project Exam Help for Learners <https://powcoder.com>

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