
Michael Allen Sprint #1 Review

End of Sprint Survey, Biases, and Data Formats



devleague

Game Plan

- 1. Create Version 1.0 "End of Sprint Survey" in Survey Monkey**
- 2. Investigate and Document Potential Bias for Survey Data**
- 3. Analyze Output in SurveyMonkey**
- 4. Export SurveyMonkey Data to Excel**
- 5. Convert Excel Categorical Data to Numerical Data**
- 6. Convert Excel to R**
- 7. Look at Survey Data in CSV, illustrate and Annotate**
- 8. Look at Survey Data in R, illustrate and Annotate**
- 9. Create CSV Mind Mapping Concepts**
- 10. Create R Mind Mapping Concepts**

End of Sprint Survey

1. What training course did you attend?

- ☐ Java Web Engineer
- ☐ Cyber Security Professional
- ☐ Big Data Analyst
- ☐ Enterprise Software Developer

2. Do you have programming experience?

- ☐ Yes
- ☐ No
- ☐ Very little

3. Who was your training instructor?

- ☐ Instructor #1
- ☐ Instructor #2
- ☐ Instructor #3
- ☐ Instructor #4
- ☐ Instructor #5

4. The instructor's lecture was delivered clearly and helped my learning.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

5. My instructor was responsive to my questions and assisted in my learning.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

End of Sprint Survey II

6. The pace (speed) of the training was appropriate for my learning.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

7. The length of the course was appropriate for my learning.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

8. The various support portals (Trello, Jupyter Notebook, GitHub, Slack) were intuitive and easy to use.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

9. The Sprints were laid out well and were useful to my learning.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

10. The classroom was comfortable (examples: not too hot, not too cold, not too noisy, etc.).

- ☐ Strongly Agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree

Investigate and Document Potential Bias for Survey Data

Knowledgeable Enough to be Attending

Experience / Age / Gender

In a Rush to Complete Survey (Not Built-in Class Time to Complete)

Had a Bad Morning at Home / Hotel that Day

Bad Traffic Day

Not Focused During the Course

Did Not Do the Required Work Throughout the Course

Relationship Issues at Home / Work

Past / Present Working / Personal Relationship with Instructor

Motivation or Lack Thereof / Forced to Attend

Job Depends on Success of Course Understanding and Completion

Investigate and Document Potential Bias for Survey Data II

Response bias refers to the bias that results from problems in the measurement process.

Leading questions. The wording of the question may be loaded in some way to unduly favor one response over another.

For example, a satisfaction survey may ask the respondent to indicate where she is satisfied, dissatisfied, or very dissatisfied.

By giving the respondent one response option to express satisfaction and two response options to express dissatisfaction, this survey question is biased toward getting a dissatisfied response.

The order you ask questions matters. Mentioning products, brands, or events can affect how people rate their familiarity and attitudes on subsequent questions.

This can be especially harmful in branding and awareness surveys as the mere exposure of a brand name first can influence later questions and findings.

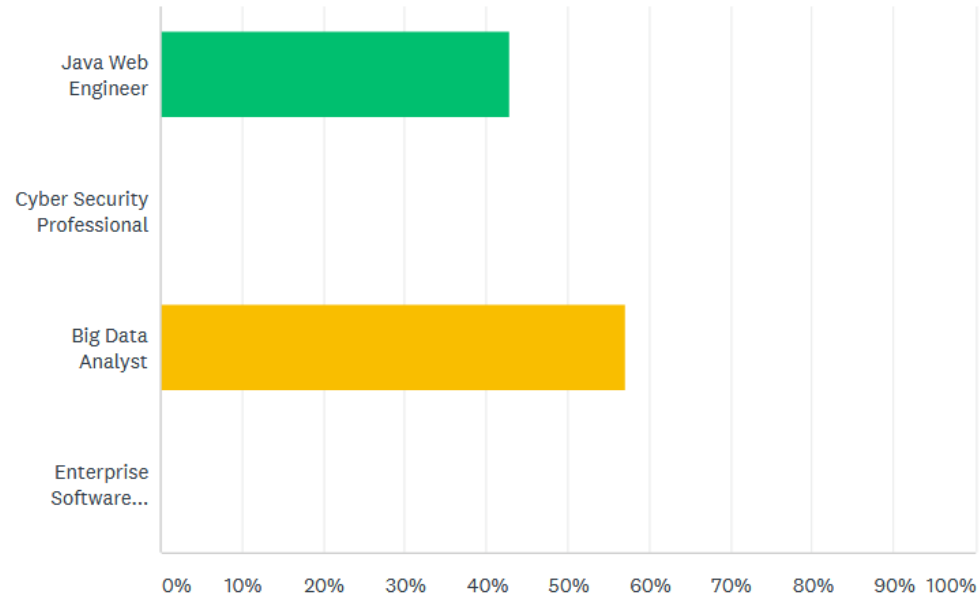
Response options also matter. A respondent might remember a choice that appeared in an earlier question and be more likely to select the response on later questions.

You can often manage many order effects through properly sequenced questions and randomization.

Analyze Output in Survey Monkey

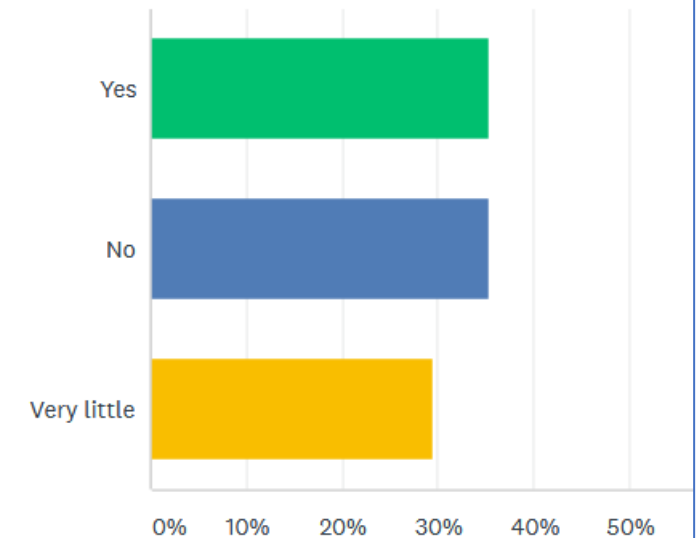
What training course did you attend?

Answered: 21 Skipped: 0



Do you have programming experience?

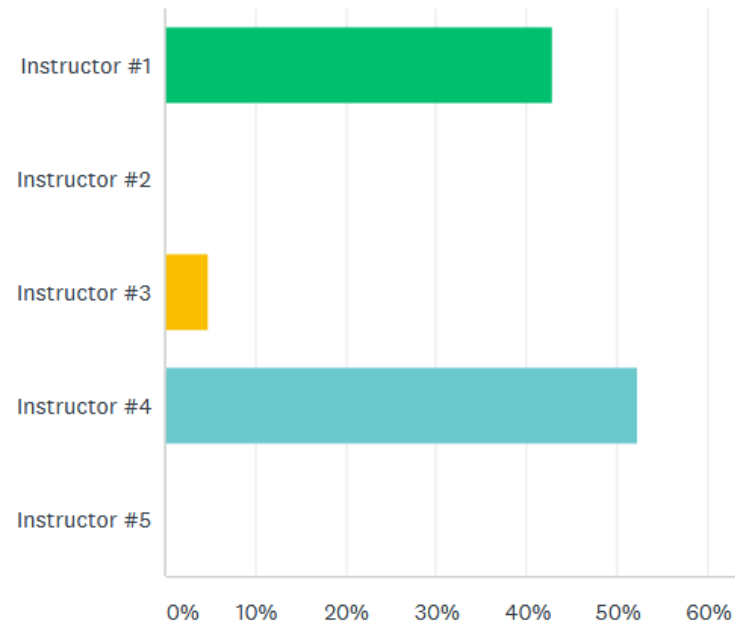
Answered: 17 Skipped: 4



Analyze Output in Survey Monkey II

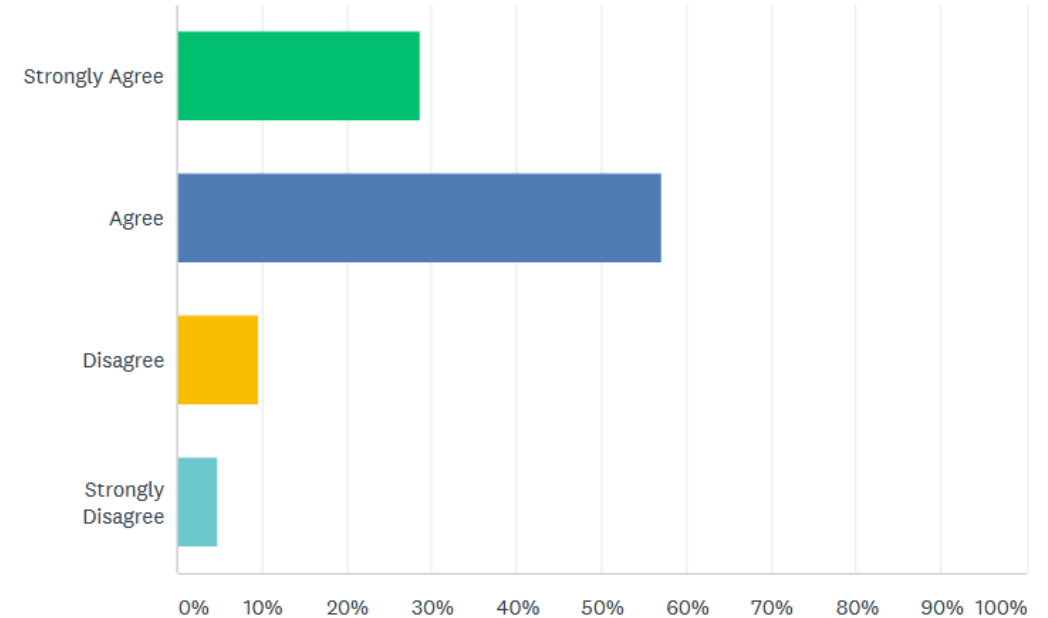
Who was your training instructor(s)?

Answered: 21 Skipped: 0



The instructor's lecture was delivered clearly and helped my learning.

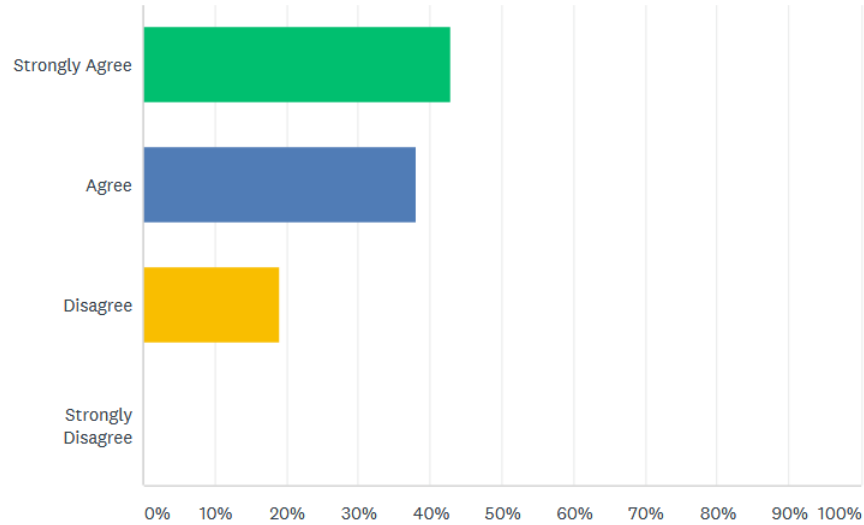
Answered: 21 Skipped: 0



Analyze Output in Survey Monkey III

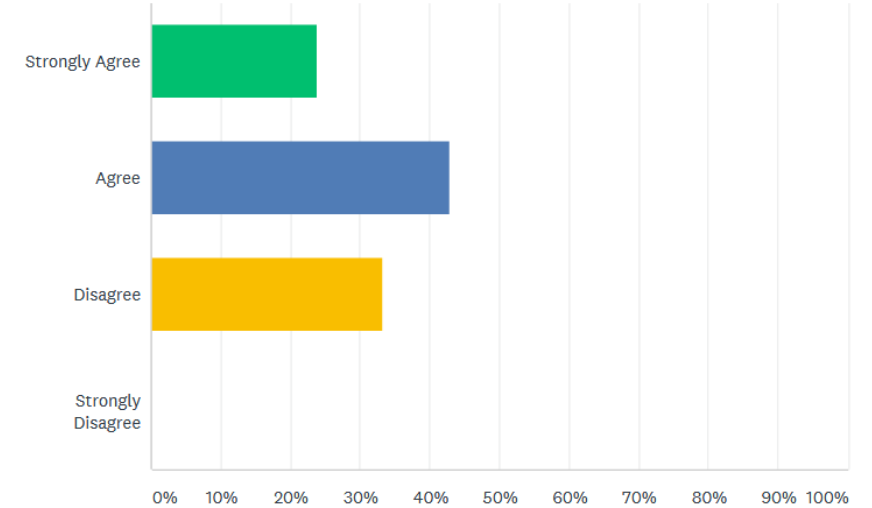
My instructor was responsive to my questions and assisted in my learning.

Answered: 21 Skipped: 0



The various support portals (Trello, Jupyter Notebook, GitHub, Slack) were intuitive and easy to use.

Answered: 21 Skipped: 0



Exported End of Sprint Survey Data to Excel

Export All ▼

- All summary data ?
- All responses data ?
- All individual responses ?

Export Survey Data

SUMMARY DATA **ALL RESPONSES DATA**

FILE FORMAT **XLS** XLS+ SPSS PDF ?

DATA VIEW ☒ Current View ☐ Original View (No rules applied) ?

COLUMNS Condensed ▼ ?

CELLS Actual Answer Text ▼

FILE NAME Data_All_171116.zip

CANCEL EXPORT

Replaced Excel Categorical Data to Numerical Data

The instructor	My instructor w	The pace (sp	The length of th	The various su	The Sprints we	The classroom
Response	Response	Response	Response	Response	Response	Response
Strongly Agree	Strongly Agree	Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree
Agree	Agree	Disagree	Agree	Agree	Agree	Disagree
Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Strongly Agree	Agree

The instructor	My instructor w	The pace (sp	The length of th	The various su	The Sprints we	The classroom
Response	Response	Response	Response	Response	Response	Response
40	40	30	40	40	40	30
30	30	20	30	30	30	20
40	40	40	40	40	40	30

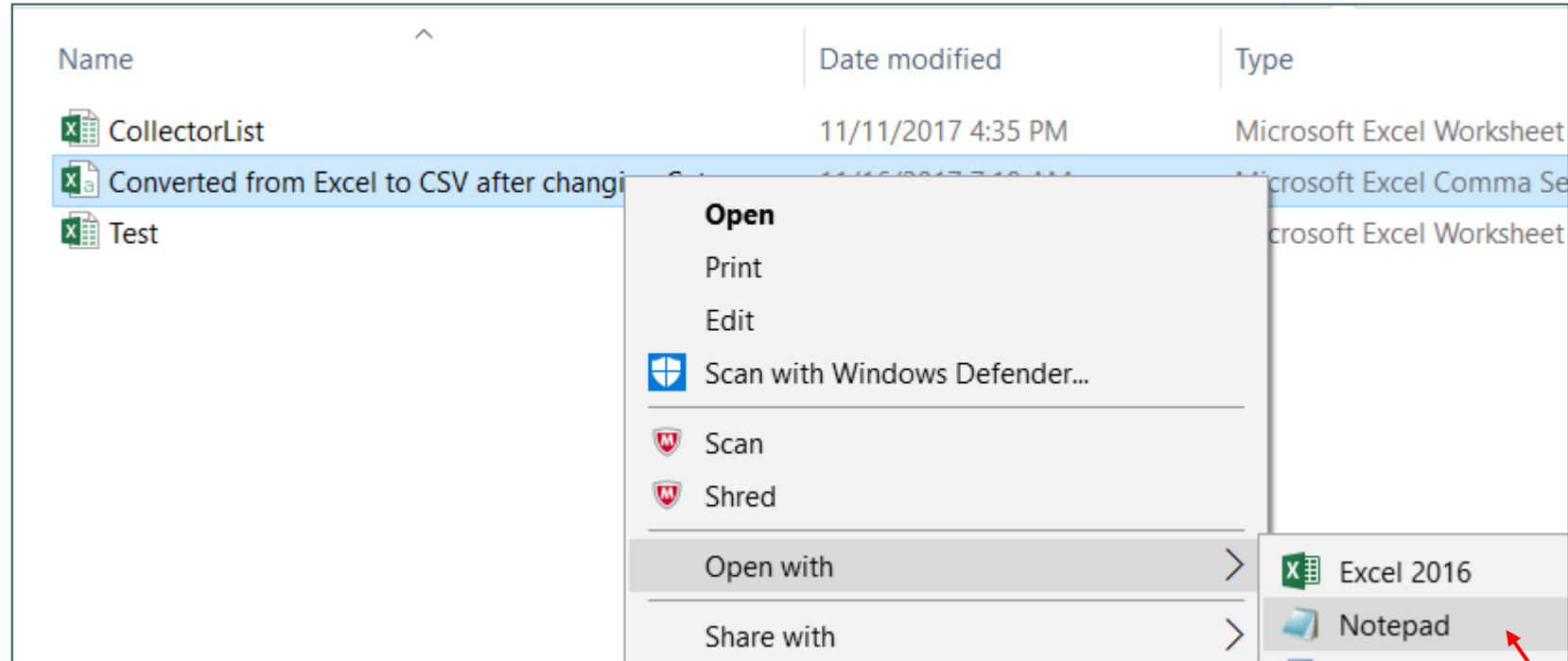
Strongly Agree = 40

Agree = 30

Disagree = 20

Strongly Disagree = 10

Opened and Saved Converted Excel Data to a CSV file



Annotated CSV file

A CSV file containing 46 surveys completed was first Exported from Survey Monkey, then I cleaned the data and made the following replacements:
Strongly Agree - 40, Agree - 30, Disagree - 20, Strongly Disagree - 10

Course ,Experience,Instructor,Delivered clearly and helped my learning.,Responsive to my questions and assisted in my learning.,Pace ,Length,Support portals,Sprints,Classroom

Response,Response,Response,Response,Response,Response,Response,Response,Response,Response,Response

Q1 = Question 1 of Survey / Q2 = Question 2 of Survey....)

Cyber Security Professional,Very little,Instructor #3,40,40,30,40,40,40,30

Q1 Q2 Q3 Q4/Q5/Q6/Q7/Q8/Q9/Q10

Big Data Analyst,No,Instructor #2,30,30,20,30,30,20

Java Web Engineer,Yes,Instructor #1,40,40,40,40,40,30

Cyber Security Professional,Very little,Instructor #3,40,40,30,40,40,30

Big Data Analyst,No,Instructor #2,30,30,30,30,20

Java Web Engineer,Yes,Instructor #1,40,40,40,40,40,30

Cyber Security Professional,Very little,Instructor #2,30,30,20,30,30,20

Big Data Analyst,No,Instructor #1,40,40,40,40,40,30

Java Web Engineer,Yes,Instructor #3,40,40,30,40,40,30

Big Data Analyst,Very little,Instructor #2,30,30,10,30,30,20

Java Web Engineer,No,Instructor #2,40,40,40,40,40,30

Big Data Analyst,Yes,Instructor #1,30,30,20,30,30,20

Java Web Engineer,No,Instructor #2,40,40,40,40,40,30

Cyber Security Professional,Yes,Instructor #1,40,40,30,40,40,30

Cyber Security Professional,Very little,Instructor #3,30,30,20,30,30,20

At the top are the Headers also separated by commas

Single records (row) of data and lack of one answer

Each field separated by a comma

Last field in the record must not have a comma

This particular program (Survey Monkey) added an additional header "response" for the participant for each question

Cyber Security Professional,No,Instructor #2,40,40,40,40,40,30

Big Data Analyst,Yes,Instructor #1,30,30,20,30,30,20

Big Data Analyst,Yes,Instructor #2,40,40,40,40,40,30

Big Data Analyst,Very little,Instructor #1,40,40,10,40,40,30

Big Data Analyst,No,Instructor #3,30,30,20,30,30,20

A "Row" of answers from the participant

Determined Working Directory and Read CSV file in R

```
getwd()
```

```
[1] "C:/Users/micha/Documents"
```

```
setwd("C:/Users/micha/Desktop/DevLeague Begins Nov 7 2017/")
```

```
> getwd()
```

```
[1] "C:/Users/micha/Desktop/DevLeague Begins Nov 7 2017"
```

```
read.csv("Simulated Survey Data II/CSV/Mock Survey Data.csv")
```

Annotated R File

```
surveys = read.csv("Simulated Survey Data II/CSV/Mock Survey Data.csv")
> surveys
```

	1..Course	Experience	Instructor
	Response	Response	Response

1			
2	Cyber Security Professional	Very little	Instructor #3
3	Big Data Analyst	No	Instructor #2
4	Java Web Engineer	Yes	Instructor #1
5	Cyber Security Professional	Very little	Instructor #3
6	Big Data Analyst	No	Instructor #2
7	Java Web Engineer	Yes	Instructor #1
8	Cyber Security Professional	Very little	Instructor #2
9	Big Data Analyst	No	Instructor #1
10	Java Web Engineer	Yes	Instructor #3
11	Big Data Analyst	Very little	Instructor #2
12	Java Web Engineer	No	Instructor #2
13	Big Data Analyst	Yes	Instructor #1
14	Java Web Engineer	No	Instructor #2
15	Cyber Security Professional	Yes	Instructor #1
16	Cyber Security Professional	Very little	Instructor #3
17	Cyber Security Professional	No	Instructor #2
18	Big Data Analyst	Yes	Instructor #1
19	Big Data Analyst	Yes	Instructor #2
20	Big Data Analyst	Very little	Instructor #1
21	Big Data Analyst	No	Instructor #3
22	Big Data Analyst	Yes	Instructor #2
23	Big Data Analyst	No	Instructor #3
24	Big Data Analyst	Yes	Instructor #2
25	Cyber Security Professional	Very little	Instructor #3
26	Big Data Analyst	No	Instructor #2
27	Java Web Engineer	Yes	Instructor #1
28	Cyber Security Professional	Very little	Instructor #3
29	Big Data Analyst	No	Instructor #2

How I initially read the file in R

At the top are the Headers for Question 1 (Q1), Q2, & Q3

And the "Row" of answers

	Responsive.to.my.questions.and.assisted.in.my.learning.	Pace
	Response	Response

Here are the Headers for Q5 & Q6

Answers for Q5 & Q6

Lack of answer

Created Mind Mapping for CSV File

Exported as a CSV file

FILE TYPE

ROWS

CATEGORIES / Also sets COLUMNS

CELLS of data / for a given ROW / the comma separates each COLUMN / which is the participants answer for that given question

Course ,Experience,Instructor,Delivered clearly and helped my learning.,Responsive to my questions and assisted in my learning.,Pace ,Length,Support portals,Sprints,Classroom
Response,Response,Response,Response,Response,Response,Response,Response,Response,Response
Cyber Security Professional,Very little,Instructor #3,40,40,30,40,40,40,30
Big Data Analyst,No,Instructor #2,30,30,20,30,30,30,20
Java Web Engineer,Yes,Instructor #1,40,40,40,40,40,40,30
Cyber Security Professional,Very little,Instructor #3,40,40,30,40,40,40,30
Big Data Analyst,No,Instructor #2,30,30,,30,30,30,20
Java Web Engineer,Yes,Instructor #1,40,40,40,40,40,40,30
Cyber Security Professional,Very little,Instructor #2,30,30,20,30,30,30,20
Big Data Analyst,No,Instructor #1,40,40,40,40,40,40,30
Java Web Engineer,Yes,Instructor #3,40,40,30,40,40,40,30
Big Data Analyst,Very little,Instructor #2,30,30,10,30,30,30,20
Java Web Engineer,No,Instructor #2,40,40,40,40,40,40,30
Big Data Analyst,Yes,Instructor #1,30,30,20,30,30,30,20
Java Web Engineer,No,Instructor #2,40,40,40,40,40,40,30

Cyber Security Professional,Yes,Instructor #1,40,40,30,40,40,40,30
Cyber Security Professional,Very little,Instructor #3,30,30,20,30,30,30,20
Cyber Security Professional,No,Instructor #2,40,40,40,40,40,40,30
Big Data Analyst,Yes,Instructor #1,30,30,20,30,30,30,20
Big Data Analyst,Yes,Instructor #2,40,40,40,40,40,40,30
Big Data Analyst,Very little,Instructor #1,40,40,10,40,40,40,30
Big Data Analyst,No,Instructor #3,30,30,20,30,30,30,20
Big Data Analyst,Yes,Instructor #2,40,40,40,40,40,40,30
Big Data Analyst,No,Instructor #3,30,30,20,30,30,30,20
Big Data Analyst,Yes,Instructor #2,40,40,40,40,40,40,30
Cyber Security Professional,Very little,Instructor #3,40,40,30,40,40,40,30
Big Data Analyst,No,Instructor #2,30,30,20,30,30,30,20
Java Web Engineer,Yes,Instructor #1,40,40,40,40,40,40,30

The entire dataset of information represents the TABLE

Created Mind Mapping for R File

FILE TYPE is "R"

```
surveys = read.csv("simulated Survey Data II/CSV/Mock Survey Data.csv")
> surveys
```

	i..Course Response	Experience Response	Instructor Response
1	Cyber Security	Professional	very little
2	Big Data Analyst	No	Instructor #3
3	Java Web Engineer	Yes	Instructor #2
4	Cyber Security	Professional	very little
5	Big Data Analyst	No	Instructor #1
6	Java Web Engineer	Yes	Instructor #3
7	Cyber Security	Professional	very little
8	Big Data Analyst	No	Instructor #2
9	Java Web Engineer	Yes	Instructor #1
10	Cyber Security	Professional	very little
11	Big Data Analyst	No	Instructor #3
12	Java Web Engineer	Yes	Instructor #2
13	Cyber Security	Professional	very little
14	Big Data Analyst	No	Instructor #1
15	Java Web Engineer	Yes	Instructor #3
16	Cyber Security	Professional	very little
17	Big Data Analyst	No	Instructor #2
18	Java Web Engineer	Yes	Instructor #1
19	Cyber Security	Professional	very little
20	Big Data Analyst	No	Instructor #3
21	Java Web Engineer	Yes	Instructor #2
22	Cyber Security	Professional	very little
23	Big Data Analyst	No	Instructor #1
24	Java Web Engineer	Yes	Instructor #3
25	Cyber Security	Professional	very little
26	Big Data Analyst	No	Instructor #2
27	Java Web Engineer	Yes	Instructor #1
28	Cyber Security	Professional	very little
29	Big Data Analyst	No	Instructor #3
30	Java Web Engineer	Yes	Instructor #2
31	Cyber Security	Professional	very little
32	Big Data Analyst	No	Instructor #1
33	Java Web Engineer	Yes	Instructor #3
34	Cyber Security	Professional	very little
35	Big Data Analyst	No	Instructor #2
36	Java Web Engineer	Yes	Instructor #1

COLUMN / CATEGORY

CELLS of data / for a given ROW / for a given COLUMN / which is the participants answer for that given question(s)

The entire TABLE / dataset

45	40	
46	30	
47	40	
1	Responsive.to.my.questions.and.assisted.in.my.learning.	Pace
2		Response
3		Response
4		Response
5		Response
6		Response
7		Response
8		Response
9		Response
10		Response
11		Response
12		Response
13		Response
14		Response
15		Response
16		Response
17		Response
18		Response
19		Response
20		Response
21		Response
22		Response
23		Response
24		Response
25		Response
26		Response
27		Response
28		Response
29		Response

COLUMN / CATEGORY

CELLS of data / for a given ROW / for a given COLUMN / which is the participants answer for that given question(s)

Thank you