

# FORM RESPONSE ANALYSIS USING EXCEL

By: Nathan Christopher Menon

# Agenda

1. Objective
2. Overview of the Data
3. Overview of the tasks
4. Tools used
5. Methodology and Results
6. Key Findings

# Objective

- To perform data analysis on the real-time responses received at **Data play**.
- The form response Excel workbook has **three sheets** in it: One containing the student info, one containing the test score, and the final one containing details about the questions and answers of the Google form filled by the onboarding students



# Overview of the Data

# Form responses

This form contains the general  
as well as academic  
information of the students

1	Timestamp	Applicant ID	Scores	College	Year of Study in College	Degree	Enrolled	Your Home	Home Town	Branch	I am an	Preferred
18	6/12/2024 9:36:47	17		11 MBM Univ	College Pass out	B.E.	Yes	Jodhpur	342001	EEE	Data Analy	Online
95	6/12/2024 11:20:39	94		15 MBM Univ		3 BTech	Yes	Jaipur	302018	Related to	Data Analy	Offline
109	6/12/2024 12:17:50	108		12 Hindustan	College Pass out	BTech	Yes	Asansol	713304	Aerospace	Data Scient	Online
120	6/12/2024 13:23:37	119		10 Noida insti	College Pass out	BTech	Yes	Meerut	250002	Mechanica	Data Scient	Offline
179	6/17/2024 22:42:33	178		8 Career Poir		2 MCA	Yes	Kota	324005	Related to	Not Decide	Offline
199	6/19/2024 16:12:58	198		11 Maharishi		1 BCA	Yes	Jaipur	302012	CS/IT	Data Scient	Online
228	6/20/2024 13:41:44	227		14 Manipal Ui		4 BTech	Yes	Jaipur	303007	CS/IT	Data Scient	Online
244	6/20/2024 13:48:10	243		12 Poornima		4 BTech	Yes	Jaipur	302017	Artificial in	Data Scient	Offline
263	6/20/2024 14:02:14	262		12 JAI PRAKAS	College Pass out	B.Sc	Yes	SARAN	841403	Related to	Data Scient	Online
334	6/24/2024 16:59:11	333		6 Manipal Ui		3 BTech	Yes	Bahadurga	124507	CS/IT	Data Analy	Online
351	6/29/2024 11:27:50	350		9 IPH-Rajastl	College Pass out	MPH	Yes	Jaipur	302012	Biostatistic	Data Scient	Offline
386	6/30/2024 7:52:58	385		16 Artificial In		4 BTech	Yes	KURNOOL	518002	CS/IT	Data Analy	Offline
444	6/30/2024 15:39:53	443		15 Maharaja a		4 BTech	Yes	Meham	124112	CS/IT	Data Scient	Online
460	6/30/2024 20:33:38	459		11 Poornima		3 BTech	Yes	Jaipur	302021	CS/IT	Not Decide	Offline
463	7/1/2024 14:14:45	462		5 Poornima		3 BTech	Yes	Shiwar	322704	Related to	Data Scient	Offline
487	7/2/2024 1:54:24	486		18 Birla Instit		3 BTech	Yes	Jaipur	302017	ECE	Data Scient	Online
506	7/2/2024 18:42:50	505		15 Poornima		3 BTech	Yes	Jaipur	302020	CS/IT	Not Decide	Offline
515	7/2/2024 20:53:55	514		12 RB Institue	College Pass out	MCA	Yes	Ahmedaba	382345	CS/IT	Data Analy	Online
516	7/2/2024 22:38:45	515		8 R.C.S.C.,Kol	College Pass out	M.Sc statis	Yes	Pattankode	416202	M.sc statis	Data Analy	Online
518	7/3/2024 12:18:44	517		8 Ddu univer	College Pass out	Bcom	Yes	Jaipur soda	302019	Related to	Data Analy	Offline
520	7/3/2024 14:40:04	519		6 Vellore insi		2 MCA	Yes	Rajakhara	328025	CS/IT	Data Scient	Offline
521	7/3/2024 21:45:16	520		11 IIIT DHARW		3 BTech	Yes	Jaipur	302012	CS/IT	Intrested to	Offline
522	7/4/2024 19:36:44	521		8 MBMU	College Pass out	BTech	Yes	Jodhpur	342001	EEE	Data Analy	Online
523	7/4/2024 19:37:10	522		10 Career poir		3 BCA	Yes	Kota Rajast	324001	CS/IT	Not Decide	Online
524	7/4/2024 19:37:22	523		20 M.B.M Uni		2 BE	Yes	Jaipur	302019	CS/IT	Data Scient	Offline
525	7/4/2024 19:37:29	524		13 Siksha o ar		4 BTech		Bhadrak	756181	CS/IT	Data Scient	Online
526	7/4/2024 19:37:31	525		7 Mhaski		3 BCA	Yes	Jaipur	302012	CS/IT	Data Scient	Online

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ToDo

Form Responses

SubmittedResponses

QuestionDetails

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# Submitted responses

This form contains the answers of each and every question given by the students as well as their total score

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	Timestamp	Applicant ID	Score	Question 1	Question 2	Question 3	Question 4	Question 1	Question 2	Question 3	Question 4	Question 1	Question 2	Question 3	Question 4	Question 5
						In the past, consumers would rarely walk into an ice cream store and order low-fat ice cream.	Statements: 1. The prices of petrol and diesel in the domestic market have remained	If the ratio of the ages of two persons is 4:5 and the sum of their ages is 36 years, find their	Which one of the following equations represent		Select the correct degree of polynomial	Three unbiased coins are tossed. What is the probability of getting at most two heads?	In a class, there are 15 boys and 10 girls. Three students are selected at random. The	There are 18 girls and 12 boys in a class. (2/9) of the girls and (1/4) of the boys walk to school.	A problem is given to three students whose chances of solving it are 1/2, 1/3 and 1/4	A man and his wife appear in an interview for two vacancies in the same post. The probability
1																
2	2024-07-04 19:32:30	530	11	0.625	0.021	low-fat ice	Statement	16 years a $y = -2x+1$	$x = -1$ is a l	a(2nd Ord	7/8		21/46	3/7	3/4	3/4
3	2024-07-04 19:45:32	522	10	0.75	0.017	consumer:	Both the s	16 years and 20 years	$x = 0$ is a l	a(2nd Ord	7/8		21/46		3/4	2/7
4	2024-07-04 19:22:53	529	12	0.75	0.017	ice cream	Both the s	16 years a $y = -2x+1$	$x = 0$ is a l	b(2nd Ord	7/8		21/46	3/7	3/4	3/4
5	2024-07-05 18:37:36	333	6		0.021	ice cream	Both the s	14 years a $y = 2x+1$ , $2x = 0$ is a l	c(2nd Ord	7/8		1/50	3/7	1/2	3/4	
6	2024-07-04 19:21:58	531	4			low-fat ice	Both the s	16 years a $y = -2x+1$		a(2nd Ord	3/4	3/25	12/30	3/4	1/7	
7	2024-07-04 19:58:21	523	20	0.75	0.017	ice cream store own	16 years a $y = 2x+1$ , $2x = 3$ is a l	a(2nd Ord	7/8		21/46	3/7	3/4	2/7		
8	2024-07-04 19:23:02	526	7	0.75		low-fat ice	Both the s	16 years a $y = -2x+1$		a(2nd Ord	3/8	25/117	3/12	7/12	2/7	
9	2024-07-04 20:03:12	262	12			ice cream	Both the s	16 years and 20 years	$x = 3$ is a local minim	7/8		21/46	3/7	3/4	2/7	
10	2024-07-04 20:21:07	94	15	0.75	0.017	low-fat ice	Both the s	16 years a $y = 2x+1$ , $2x = 3$ is a l	b(2nd Ord	3/4		21/46	3/7	3/4	4/5	
11	2024-07-05 18:59:00	178	8	0.75	0.017	ice cream	Both the s	16 years a $y = 2x+1$	$x = 3$ is a l	a(2nd Ord	3/8		3/7	7/12	1/7	
12	2024-07-04 19:47:43	521	8	0.75	0.012	low-fat ice	Both the s	16 years a $y = 2x+1$	$x = 0$ is a l	c(2nd Ord	7/8		21/46	3/7	1/4	2/7
13	2024-07-04 19:33:06	527	12	0.75	0.021	ice cream	Both the s	16 years a $y = 2x+1$			7/8		21/46	3/7	3/4	3/4
14	2024-07-04 20:05:19	514	12	0.75	0.017	low-fat ice	Statement	16 years a $y = 2x+1$	$x = 3$ is a local minim	7/8		21/46		3/4	2/7	

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Pivot table 1

Pivot table 2

Form Responses

SubmittedResponses

QuestionDetails

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:

Ready

Accessibility: Investigate

## Question details

This form contains the correct answer for each question

[illegible]



# Overview of the Tasks



# Tasks

- **Task 1:** Do a Vlookup of Scores from "submitted responses" sheet to "form responses" sheet
- **Task 2:** Create a Pivot table to display average scores wrt "I am an Aspiring " field for enrolled students
- **Task 3:** Create a Pivot table for displaying degree and there average scores for only those who submitted test

## Tasks Continued...

- **Task 4:** Create a new sheet named "QuestionWiseScores" in Excel where each student's answers are evaluated with 1 mark for a correct answer and 0 for a wrong answer
- **Task 5:** Recalculate Question Wise Score considering 1 mark for the right answer and -1 for wrong answer and 0 for empty
- **Task 6:** Find out the average score topic-wise

# Tools Used



- VLOOKUP
- AVERAGE
- IF
- PIVOT TABLES
- PASTE TRANSPOSE

# Methodology and Results

SUM					
=VLOOKUP(B18,SubmittedResponses!B:C,2,FALSE)					
	A	B	C	D	E
1	Timestamp	Applicant ID	Scores	College	Year of Study in Colle
18	6/12/2024 9:36:47	17	=VLOOKUP(B18,SubmittedResponses!B:C,2,FALSE)		
95	6/12/2024 11:20:39	94	15	MBM Univ	3
109	6/12/2024 12:17:50	108	12	Hindustan	College Pass out
120	6/12/2024 13:23:37	119	10	Noida insti	College Pass out
179	6/17/2024 22:42:33	178	8	Career Poir	2
199	6/19/2024 16:12:58	198	11	Maharishi	1
228	6/20/2024 13:41:44	227	14	Manipal Un	4
244	6/20/2024 13:48:10	243	12	Poornima C	4
263	6/20/2024 14:02:14	262	12	JAI PRAKAS	College Pass out
334	6/24/2024 16:59:11	333	6	Manipal Un	3
351	6/29/2024 11:27:50	350	9	IPH-Rajasth	College Pass out
386	6/30/2024 7:52:58	385	16	Artificial In	4
444	6/30/2024 15:39:53	443	15	Maharaja a	4
460	6/30/2024 20:33:38	459	11	Poornima C	3
463	7/1/2024 14:14:45	462	5	Poornima C	3
487	7/2/2024 1:54:24	486	18	Birla Institu	3
506	7/2/2024 18:42:50	505	15	Poornima C	3
515	7/2/2024 20:53:55	514	12	RB Institue	College Pass out
516	7/2/2024 22:38:45	515	8	R.C.S.C ,Kol	College Pass out
518	7/3/2024 12:18:44	517	8	Ddu univer	College Pass out
520	7/3/2024 14:40:04	519	6	Vellore ins	2
521	7/3/2024 21:45:16	520	11	IIIT DHARW	3
522	7/4/2024 19:36:44	521	8	MBMU	College Pass out
523	7/4/2024 19:37:10	522	10	Career poir	3
524	7/4/2024 19:37:22	523	20	M.B.M Uni	2
525	7/4/2024 19:37:29	524	13	Siksha o ar	4
526	7/4/2024 19:37:31	525	7	Maharishi	3

# Task 1

- Select the Applicant ID in the form response table and then select the applicant ID and score column in the Submitted response table. Set the target column as 2 and final parameter as FALSE

	A	B	C	D
1	Scores	(Multiple Items) 		
2				
3	Row Labels 	Average of Scores		
4	Data Analyst	10.4		
5	Data Scientist	11.9		
6	Intrested to learn	11		
7	Not Decided Yet	12.42857143		
8	<b>Grand Total</b>	<b>11.57894737</b>		
9				
10				
11				
12				
13				
14				

## Task 2

- Select the form response table and create a pivot table. Then add 'I am Aspiring' column as **rows** , average score as **values** and scores with non zero values as **filter**.

	A	B	C	D
1	Scores	(Multiple Items)		
2				
3	Row Labels	Average of Scores		
4	B.E	12		
5	B.E.	11		
6	B.Sc	12		
7	BCA	9.333333333		
8	Bcom	8		
9	BE	20		
10	BTech	12.0952381		
11	Executive PG (current)	13		
12	Integrated MSc	20		
13	M.Sc	7		
14	M.Sc statistics	8		
15	MCA	8.666666667		
16	MPH	9		
17	PhD	12		
18	Grand Total	11.57894737		
19				

## Task 3

- Select the form response table and create a pivot table. Then add 'Degree of study' as **rows**, Average scores as **values**, and scores with non-zero values as **filter**.

D2    ✕ ✓ <i>fx</i> =IF(SubmittedResponses!D2=QuestionDetails!B5,1,0)										
	A	B	C	D	E	F	G	H	I	J
	Timestamp	Applicant ID	Score	Question 1	Question 2	Question 3 In the past, consumers would rarely walk into an ice cream store and order low-fat ice cream.	Question 4 Statements: 1. The prices of petrol and diesel in the domestic market have remained	Question 1 If the ratio of the ages of two persons is 4:5 and the sum of their ages is 36 years, find their	Question 2 Which one of the following equations represent	Question 3
1										
2	2024-07-04 19:32:30	530	11	0	0	0	0	1	0	0
3	2024-07-04 19:45:32	522	10	0	0	0	0	0	1	0
4	2024-07-04 19:22:53	529	12	0	0	0	0	0	0	0
5	2024-07-05 18:37:36	333	6	1	0	0	0	0	0	0
6	2024-07-04 19:21:58	531	4	1	1	0	0	0	0	1
7	2024-07-04 19:58:21	523	20	0	0	0	1	0	0	0
8	2024-07-04 19:23:02	526	7	0	1	0	0	0	0	1
9	2024-07-04 20:03:12	262	12	1	1	0	0	0	1	0
10	2024-07-04 20:21:07	94	15	0	0	0	0	0	0	0
11	2024-07-05 18:59:00	178	8	0	0	0	0	0	0	0
12	2024-07-04 19:47:43	521	8	0	0	0	0	0	0	0
13	2024-07-04 19:33:06	527	12	0	0	0	0	0	0	1
14	2024-07-04 20:05:19	514	12	0	0	0	0	0	0	0

## Task 4

- Perform the IF function using the correct answers in the Question Details sheet after copying the SubmittedResponses table and setting 1 for correct and 0 for incorrect answer



A	B	C	D	E	F	G	H	I
Timestamp	Applicant ID	Score	Question 1	Question 2	Question 3 In the past, consumers would rarely walk into an ice cream store and order low-fat ice cream.	Question 4 Statements: 1. The prices of petrol and diesel in the domestic market have remained	Question 1 If the ratio of the ages of two persons is 4:5 and the sum of their ages is 36 years, find their	Question 2 Which one of the following equations represents line graph.
2024-07-04 19:32:30	530	11	=IF(SubmittedResponses!D2="",0,IF(SubmittedResponses!D2=Qu					
2024-07-04 19:45:32	522	10	IF(logical_test, [value_if_true], [value_if_false])					-1
2024-07-04 19:22:53	529	12	-1	-1	-1	-1	-1	-1
2024-07-05 18:37:36	333	6	0	-1	-1	-1	-1	-1
2024-07-04 19:21:58	531	4	0	0	-1	-1	-1	-1
2024-07-04 19:58:21	523	20	-1	-1	-1	0	-1	-1
2024-07-04 19:23:02	526	7	-1	0	-1	-1	-1	-1
2024-07-04 20:03:12	262	12	0	0	-1	-1	-1	0
2024-07-04 20:21:07	94	15	-1	-1	-1	-1	-1	-1
2024-07-05 18:59:00	178	8	-1	-1	-1	-1	-1	-1
2024-07-04 19:47:43	521	8	-1	-1	-1	-1	-1	-1
2024-07-04 19:33:06	527	12	-1	-1	-1	-1	-1	-1
2024-07-04 20:05:19	514	12	-1	-1	-1	-1	-1	-1

# Task 5

- Copy the QuestionWiseAnswers in the previous task and set the condition to 1 for the correct answer, -1 for incorrect answer, and 0 for not attempting

A	B		
Topic	Average Score		
DataInterpretation	0.13	Row Labels	Average of Average Score
DataInterpretation	0.24		
DataInterpretation	0.08	Aptitude	0.50877193
DataInterpretation	0.08		
Maths	0.03	CodingLogic	0.157894737
Maths	0.16		
Maths	0.29		
Maths	0.32		
Probability	0.08	DataInterpretation	0.131578947
Probability	0.18	Maths	0.197368421
Probability	0.21	Probability	0.254385965
Probability	0.24	Stats	0.221052632
Probability	0.24	(blank)	
Probability	0.58		
Stats	0.05		
Stats	0.18	Grand Total	0.244851259

# Task 6

- Use the AVERAGE function to get the avg. score and then extrapolate the columns and use paste transpose. Create a pivot table using these and get the average score topic-wise

## Key Findings

- Students who chose Data Scientist as their future career have a higher score compared to those who chose Data Analyst as their future career, this doesn't indicate that one group is smarter than the other as the form posed questions about data science along with data analysis, thus explaining the edge that the aspiring data scientists have in scores.

# Key Findings

- Postgraduate students and Doctorate students have a slightly higher score compared to undergrad students but this all can be attributed to them having more knowledge in the particular domain due to their higher qualifications.

The background is a solid teal color. In the lower-left corner, there are several overlapping, semi-transparent shapes in various shades of teal and dark green, creating a layered, abstract effect. The shapes include a large, dark green semi-circle and several lighter teal curved lines and shapes that overlap it and each other.

**Thank You**