DHRUV GARG 16 BCE 1190

DATA VISUALIZATION

R INTEGRATION WITH TABLEAU

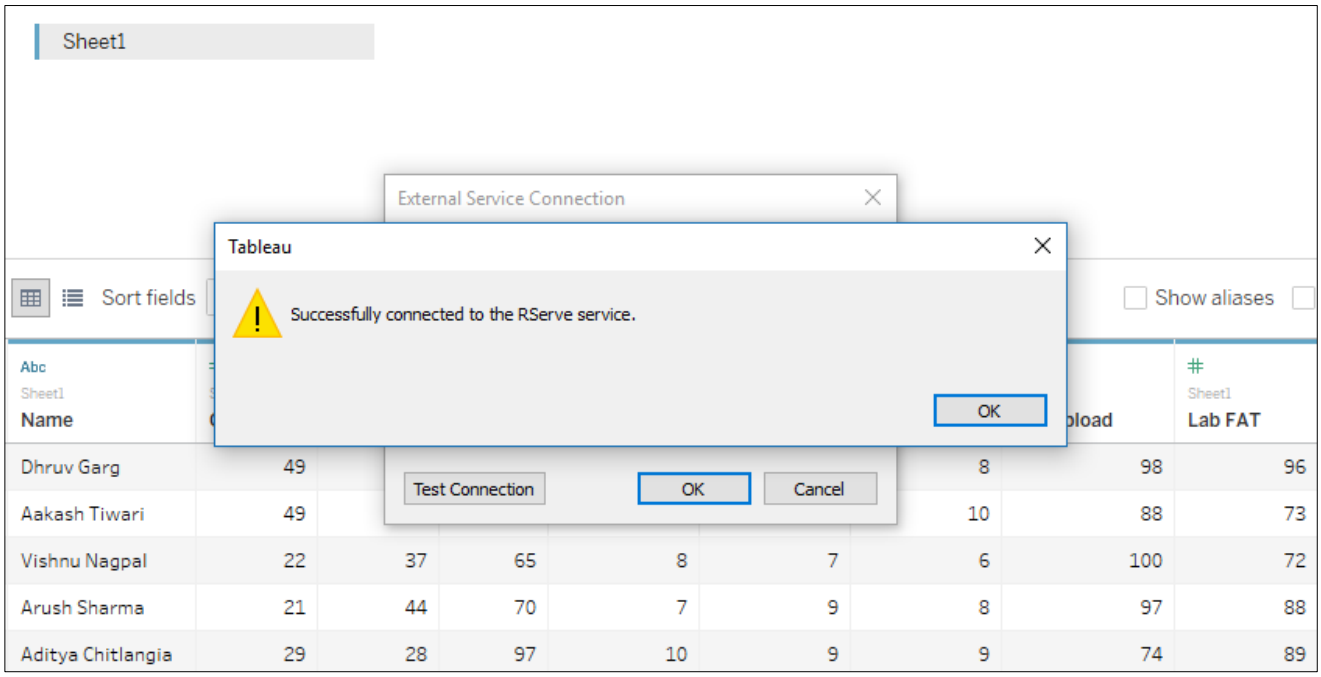
STEP 1: Create the dataset "student_Marks" in an Excel sheet. Used RANDBETWEEN() function to enter data.

Name	CAT 1	CAT 2	FAT	Digital 1	Digital 2	Digital 3	Lab upload	Lab FAT	Review 1	Review 2	Review 3
Dhruv Garg	49	49	100	9	7	8	98	96	17	27	49
Aakash Tiwari	49	40	65	8	7	10	88	73	18	30	50
Vishnu Nagpal	22	37	65	8	7	6	100	72	20	29	37
Arush Sharma	21	44	70	7	9	8	97	88	18	27	35
Aditya Chitlangia	29	28	97	10	9	9	74	89	20	29	41
Chahat Agarwal	24	49	82	9	9	8	97	98	18	28	35
Swaraj Phadtare	22	20	91	10	9	9	71	89	18	29	41
Shantanu Gupta	26	30	64	7	7	7	84	73	18	29	50
Rachit Tiwary	35	21	66	9	7	8	83	89	17	26	47
Abhinav Sharma	39	38	64	7	9	10	98	80	19	27	39
Prakhar Mishra	36	42	72	7	8	7	73	80	19	26	35
Shivam Rathi	47	22	72	6	6	6	74	83	20	29	48
Mayank Ranjan	33	29	77	6	9	8	94	94	20	28	35
Raagul Nagendran	21	43	77	6	6	9	83	86	17	26	49
Aravind Krishnan	30	36	79	10	9	7	99	72	18	25	39
Raghu Vamsi	40	23	81	8	8	6	86	78	18	28	38
Natesh Balaji	37	23	65	8	7	7	97	88	20	25	44
Reuben Verghese	28	27	83	6	6	8	74	84	19	29	50
Satyarth Gohil	29	43	88	6	9	9	78	75	18	26	48
Pranjal Srivastava	31	40	60	6	6	7	76	93	18	28	49

STEP 2: Start R Server on local host.

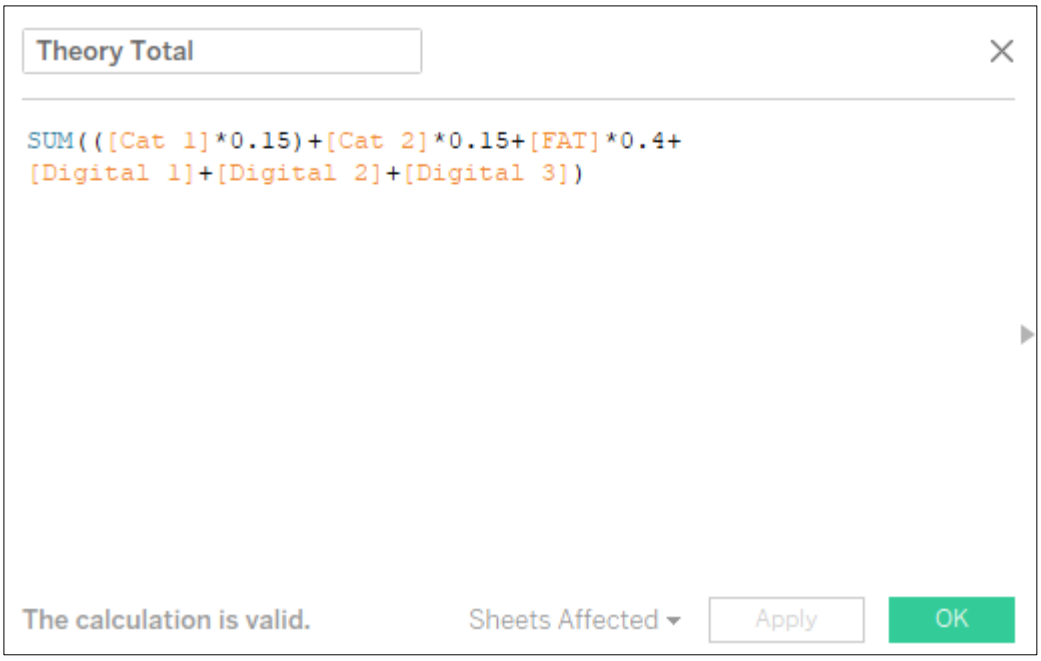
```
> library("Rserve")
> Rserve()
Starting Rserve...
 "C:\Users\dhruv\DOCUME~1\R\WIN-LI~1\3.4\Rserve\libs\x64\Rserve.exe"
>
```

STEP 3: Import the dataset "student_Marks" into Tableau and connect to the Rserve() service on localhost.



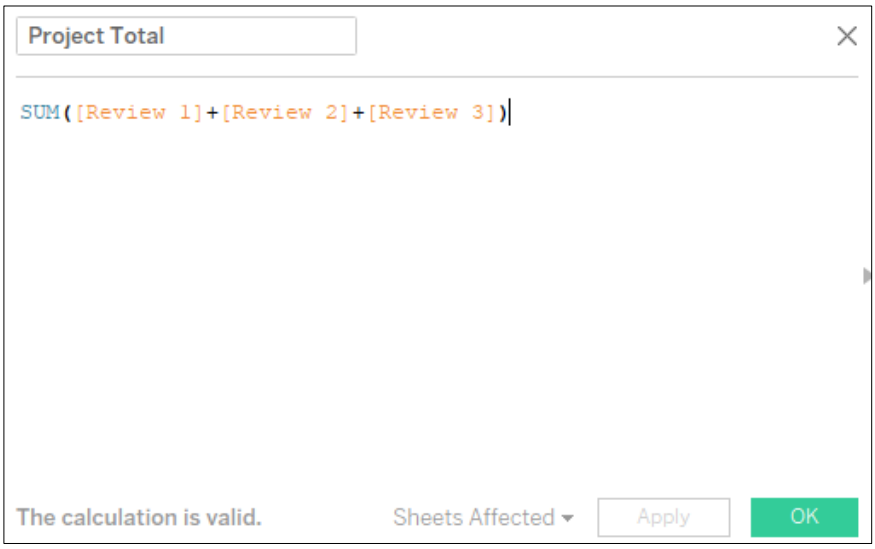
STEP 4: Create various calculated fields using the "Analysis" tab in Tableau

Calculated field: Theory total

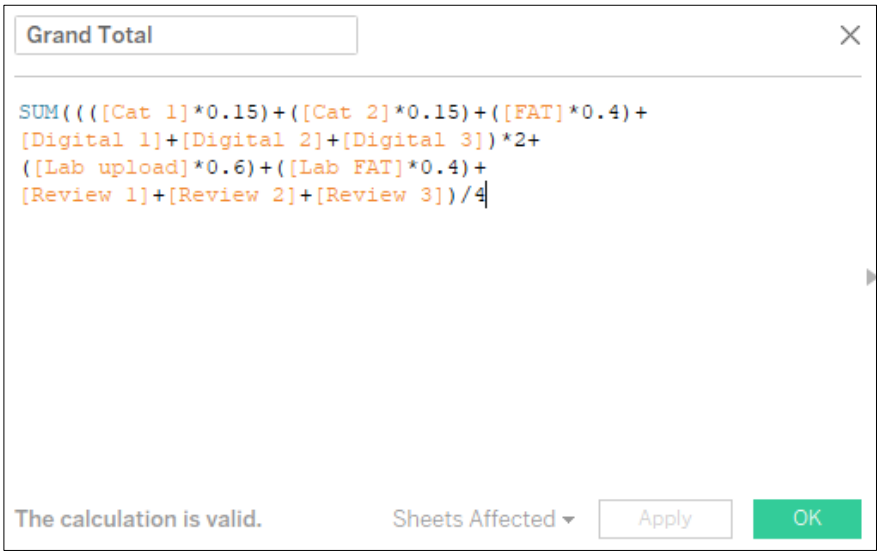


Calculated field: Lab Total

Calculated field: Project Total



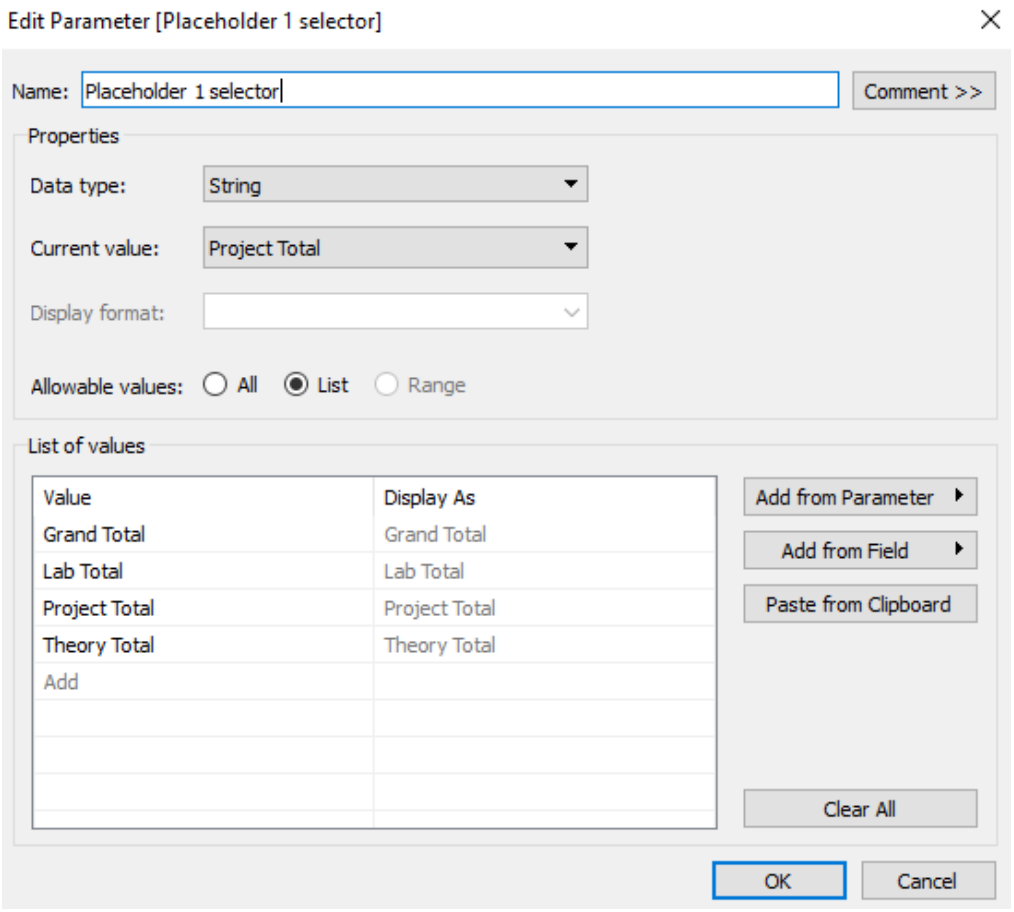
Calculated field: Grand Total



Calculated field: Grade

STEP 5: Create parameter fields

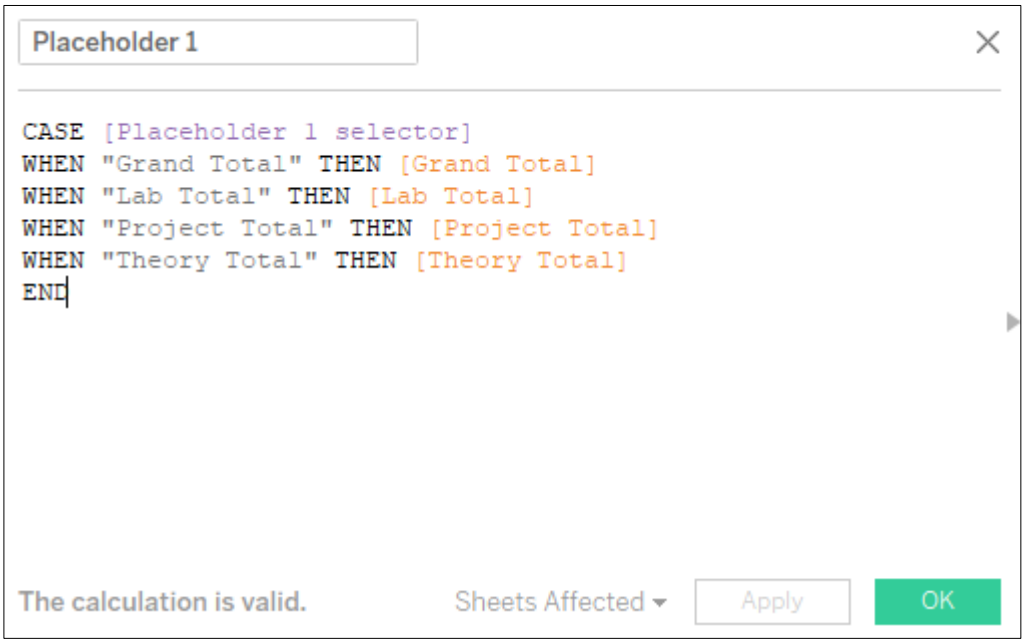
First create a parameter field called “Placeholder 1 selector” using data type string and enter the field names.



Create a duplicate parameter field named “Placeholder 2 selector” as well.

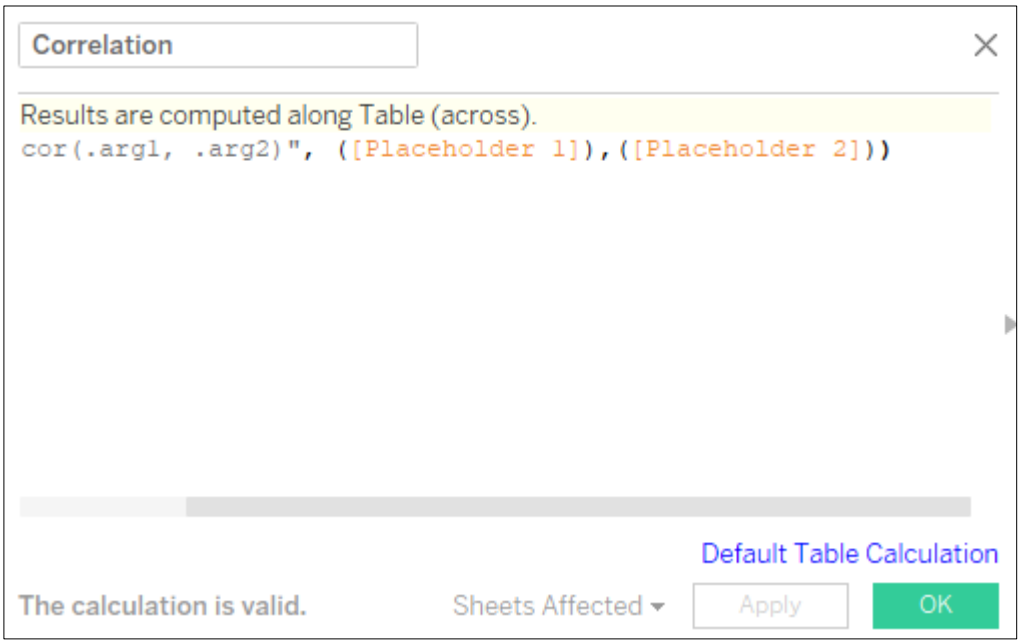
STEP 6: Create calculated fields for the placeholder selectors.

First create the field “Placeholder 1” and write the fields using a switch-case statement.

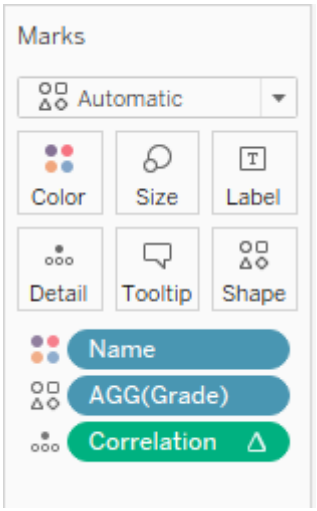


Now create a duplicate and rename it as “Placeholder 2”.

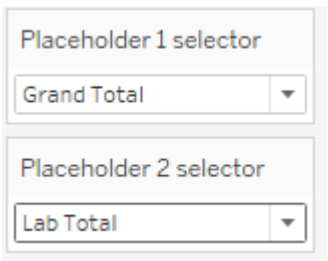
STEP 7: To use the computational power of R, we define a correlation on the two Placeholders.



STEP 8: Drag and drop the following measures to the corresponding row/column/mark fields as shown in the figures.

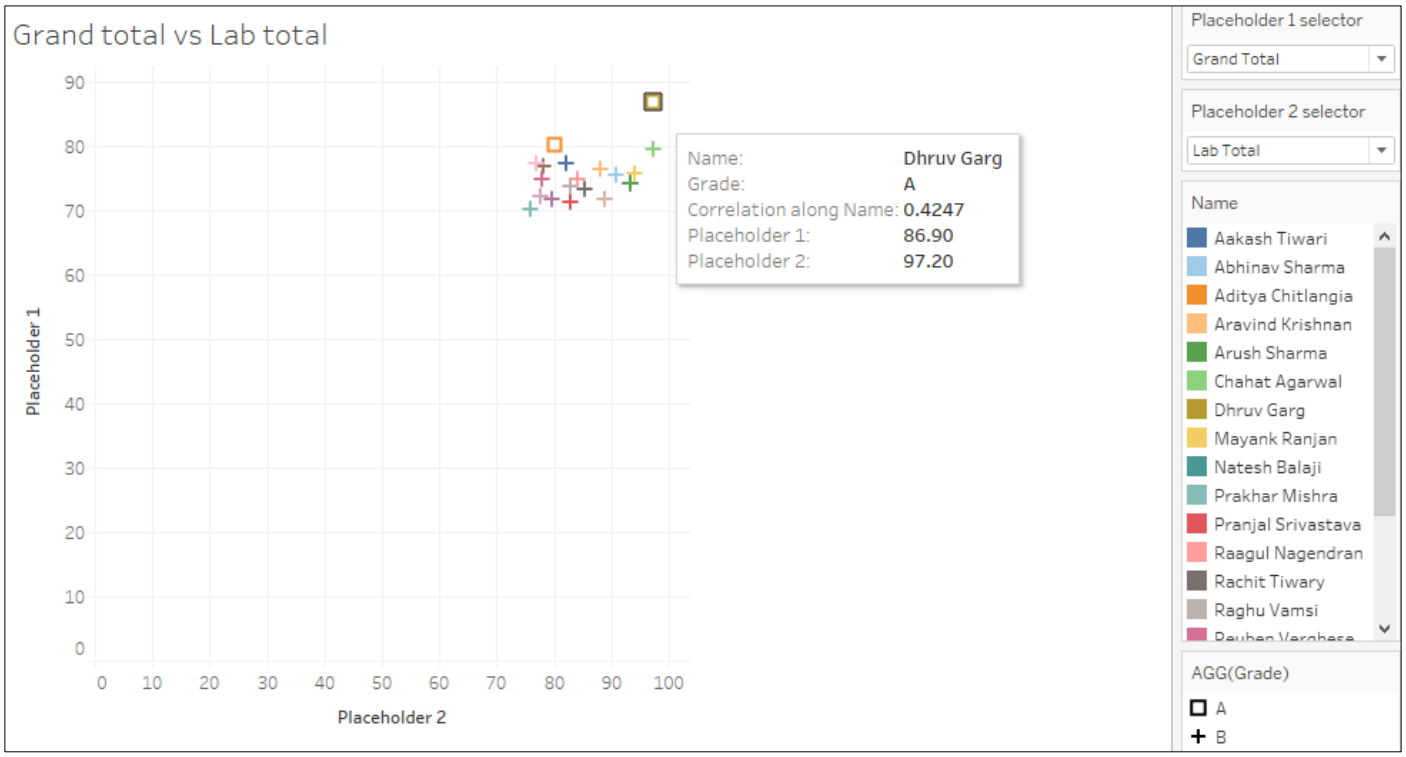


STEP 9: Right click on the two Placeholder selectors in the "Parameters" field and select "Show parameter control"

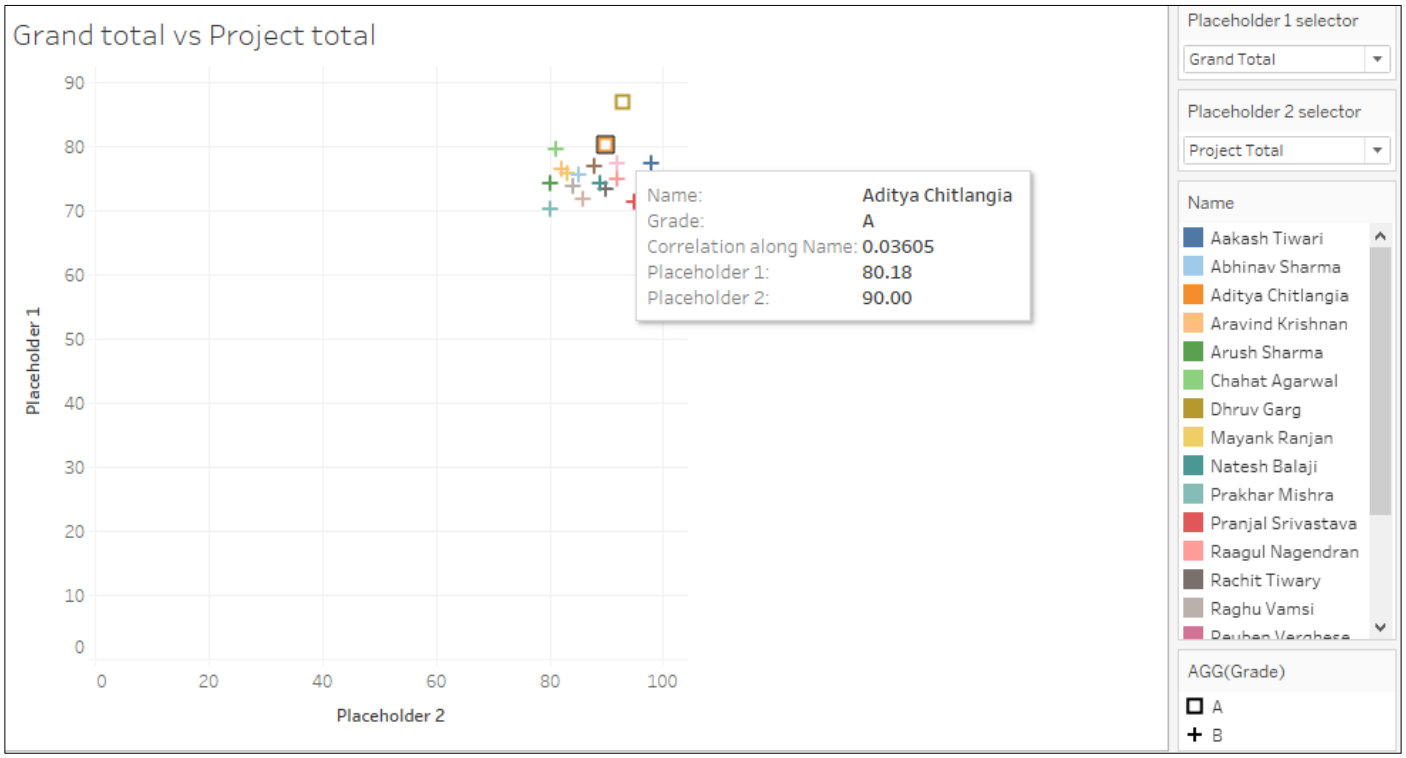


PLOTS drawn on Tableau - CORRELEATION COEFFICIENT computed on R

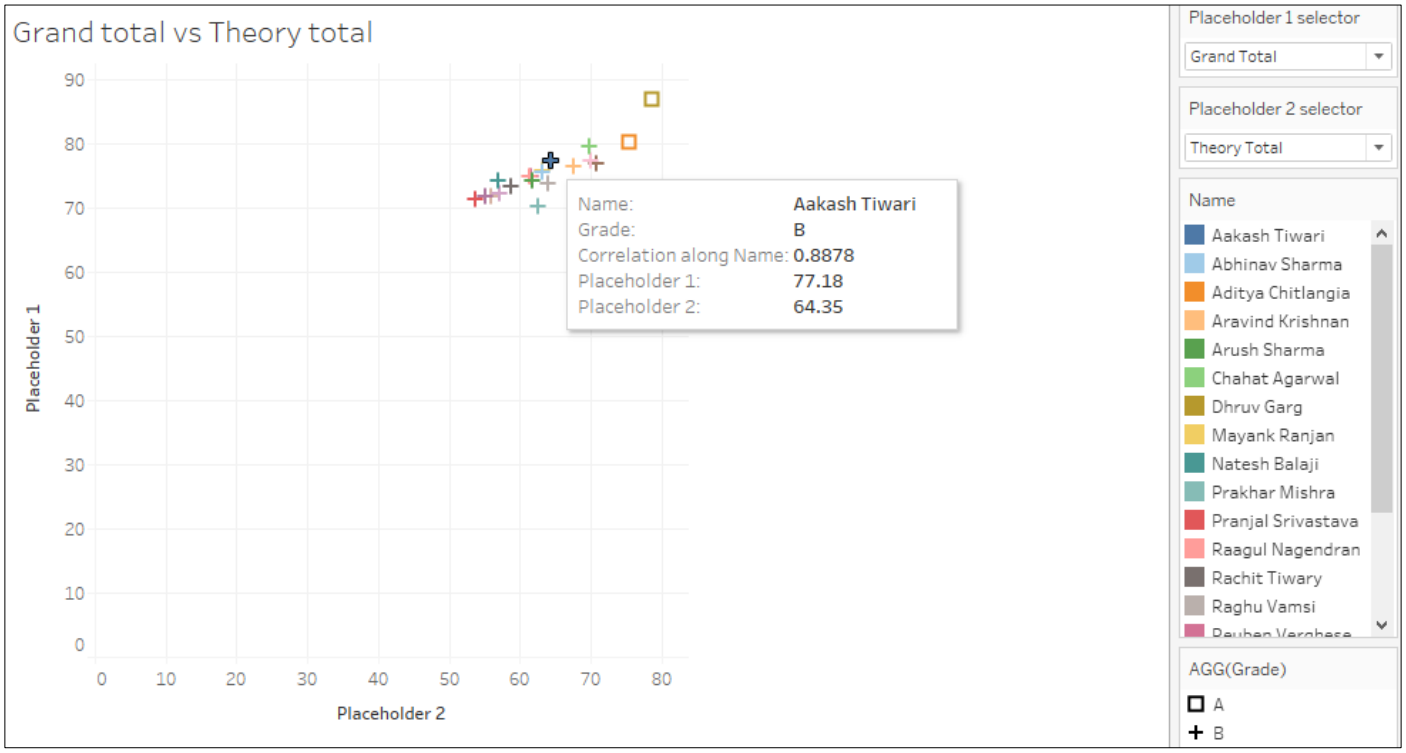
PLOT 1



PLOT 2



PLOT 3


Grand total vs Theory total
Placeholder 1
Placeholder 2
0
10
20
30
40
50
60
70
80
90
Name: Aakash Tiwari
Grade: B
Correlation along Name: 0.8878
Placeholder 1: 77.18
Placeholder 2: 64.35
Placeholder 1 selector
Grand Total
Placeholder 2 selector
Theory Total
Name
Aakash Tiwari
Abhinav Sharma
Aditya Chitlangia
Aravind Krishnan
Arush Sharma
Chahat Agarwal
Dhruv Garg
Mayank Ranjan
Natesh Balaji
Prakhar Mishra
Pranjal Srivastava
Raagul Nagendran
Rachit Tiwary
Raghu Vamsi
AGG(Grade)
A
B