Filters Action

1. Analyses: Filter Out sales of products based on categories and subcategories
2. **Sheet1 (Sales by Category) -> Drag category to columns -> Drag sales to rows -> Drag category to color (Marks)**
3. **Sheet2 (Sales by Subcategory) -> Drag category,subcategory to columns -> Drag sales to rows -> Drag category to color (Marks)**
4. **Click worksheets(on top tab) -> actions -> click add actions -> click filter**
5. **Click source sheet as sheet1 and target sheet as sheet2**
6. **Under Run action on , click select and check single select only**
7. **Under "clearing the selection will" -> click "Show all values" -> click ok**
8. **Create a dashboard with the 2 chats and show how that works**

Highlight Action

9. Analyses: Highlight sales based on region for each product category and sub category
10. **Sheet 1: Category sales by region ->Drag category to columns -> Draf sales to rows -> drag region to colors (marks)**
11. **Sheet 2: SubCategory sales by region ->Drag category, subcategory to columns -> Draf sales to rows -> drag region to colors (marks)**
12. **Click worksheets(on top tab) -> actions -> click add actions -> click highlight**
13. **Click source sheet as sheet1 and target sheet as sheet2**
14. **Under Run action on , click select**
15. **Click on one segment of the stacked bar chart to see results**

URL Action

16. Analyses: Create a URL action such that it open up a wikipedia page for that state
17. **Drag country to middle space -> Drag state to middle space -> click on automatic under marks and make it map ->Drag states to label -> Drag sales to color**
18. **Click worksheets(on top tab) -> actions -> click "This Sheet" -> click add actions -> click Go to URL -> Choose the sheet you created as source sheet**
19. **Under Run action on , click select**
20. **Under URL, enter -> https://en.wikipedia.org/wiki/-> Click on insert and choose state**
21. Click on any state , it will automatically take you to the wiki page

Change Parameter

22. Analyses: create a parameter action to display sales amount based on the category that is being selected
23. **Create parameter -> Name it "value to display" -> click ok**
24. **Drag category to column -> Drag sales to rows**
25. **Click worksheets(on top tab) -> actions -> click "This Sheet" -> click add actions -> click "Change Parameter"-> Choose the sheet you created as source sheet -> Under target parameter , choose "value to display" -> under source field , click sum(sales) -> under aggregation , click sum**
26. **Under Run action on , click select**
27. **Under "clearing the selection will" -> click "set value to" -> click ok**
28. **Right click on title of the sheet => click insert -> choose the parameter value to display -> put a text before that "Selected Value is: "**
29. Click on each segment of the chart , the value will of title will change dynamically

Change Set Value

30. Analyses: Display what proportion did each region contributed to total monthly sales for each year using set action
31. **Sheet1(Sales by Region) -> Drag region to columns -> sales to rows**
32. **Sheet2(Monthly sales for each year) -> Drag year(order date), month(order date) to columns -> Drag sales to rows (make it bar chart)**
33. **Right click region in dimension tab -> create -> set -> click ok**
34. **Drag region set to colors (marks)**
35. **Click worksheets(on top tab) -> actions -> click "This Sheet" -> click add actions -> click "Change Set Values"-> Choose the sheet you created as source sheet (Sales by Region)-> Under target set , choose orders(Sample-Superstore..) and "Region Set" -> under source field , click sum(sales) -> under aggregation , click sum**
36. **Under "Run action on" , click select**
37. **Under "Running the action will" -> Assign values to set**
38. **Under "clearing the selection will" -> click "set value to" -> click ok**
39. **Right click region set in marks (tagged as color)->clcik sort -> ascending**
40. Click on any of the region, the sales proportion of the region will be marked in each monthly bar of monthly sales sheet

Different Filters:

41. Order of filters:
    a. Extract filter : link
    b. Data source filter

     c. Context filter
     d. Dimension filter
     e. Measure filter
     f. Interactive filter (Showing filter for the user to interact with)
     g. Date filter - Dragging a date to filter
     h. Cascading Filter

         i. **Drag category, subcategory to columns -> Drag sales to rows**
        ii. **Drag region,state, city to filter -> Show filter -> Click Drop down on the shown filter -> Single Values (List)**
       iii. By default the 3 filters work by "and" condition
       iv. If you select region = central, you dont know which of the states belong to region central. So most states will give you an empty viz , since that state may not belong to central
        v. **Click drop down on region (under filter) -> click add to context**
       vi. **Click drop down on state (in the shown filter, right tab) -> click all values in context**
      vii. You will notice that the states keep changing based on the region you select
     viii. **Click drop down on city (in the shown filter, right tab) -> click "only relevant value"**
       ix. Now viz will appear only based on the selections you have made finally on city and the filters are dynamically changing

Hierarchy:

42. Analyses: Build a Hierarchy of Product category and Sub Category and have a plot which displays sales of product by category and drill it down using the hierarchy to display sales by sub category
43. **Drag subcategory on the left table tab to category -> Name the hierarchy as product**
44. **Drag category to columns and sales to rows-> you can click on "+" to drill it down to subcategory**

Custom Table Calculations (Lookup):

45. Analyses: find sales difference between regions for each sub category of products
46. **Drag regions to column -> Drag category, subcategory to rows -> Drag sales to text**
47. **Create calculated field "sale difference" -> Calculation formula - <mark>ZN(SUM([Sales]))-LOOKUP(ZN(SUM([Sales])),-1)</mark> sales**
48. **Drag sales difference to text**
49. Zn returns sum of sales if it is not null otherwise it will return 0

50. Lookup-it will return the sum of sales value from the previous row because it has -1 which is the relative offset from the current row

51. Eg2: Drag subcategory to rows -> Drag sales, sales difference to text (under marks)

Nested Table Calculations:

52. A nested table calculation can be one of two types of calculated fields:
- A calculated field that includes more than one calculated field with a table calculation (as in the example below), or
- A calculated field that itself has a table calculation and includes at least one calculated field with a table calculation.
- With nested table calculations, you can set "Compute Using" (down, across etc) configurations for individual calculations independently
- **Drag Sub-Category to Columns -> Region to Rows**
- **Create a calculated field, 1-nest, with the definition TOTAL(SUM([Sales]))**
- TOTAL function sums all sales for the entire partition (entire data)
- **Create a second calculated field, 2-nest, with the definition TOTAL(SUM([Profit])).**
- **Create a third calculated field, 3-nest, with the definition [1-nest] + [2-nest].**
- **Drag 3-nest to text**
- **Right click 3-nest in marks-> click "edit table calculation" -> you will see under Nested Calculations, you can individually choose the source calculated field table calculation for "compute using"**

Use Table Calculations as Filter:

53. Analyses: find percentage of total sales for each category irrespective of which category is filtered out in the view
54. The problem-When filtering the category the percentage of total will always add up to 100 which it should not this is because the filter is applied at the data source

55. **Drag category to columns -> drag sales to row -> drag category to filter -> Show filter**

56. **Right click sales under marks -> quick table calculation -> click percent of total**

57. Show how when you change the filter, the % of total filters the category and it still adds up to a 100%

58. **Create calc field "category table calc filter" -> Calculation formula- ==LOOKUP(ATTR([Category]),0)==**

59. **Drag "category table calc filter" to filter**

60. See how now when you change the table calculation filter , the data or the calculation doesnt change.

61. Using table calculation as filter merely hides it from the view,The above calculation returns all the values for category but as a table calculation

62. lookup(ATTR[category],0) will get the current value ie the category itself

63. ATTR returns value of a field if there is only single value of that field present for a given LOD or a * if there is more than one value

Creating sets via formula:

64. Analyses: find sales of products made by "3M"
65. **Right click product name -> create -> set -> name it "product name set" ->click "condition" tab -> check "by formula" -> enter CONTAINS([Product Name],"3M")**
66. **Drag product name set to filter -> Drag product name to rows -> Drag sales to columns**

67. Analyses: Let the user select previous N days moving average
68. **Drag day(orderdate) to columns -> drag sales to rows**
69. **Drag sales again to rows -> right click sales green pill -> quick table calculation -> moving average**
70. **Right click the same sales green pill -> dual axis ->**
71. **right click the right axis -> synchronise axis**
72. **right click the right axis -> uncheck "show header"**
73. **Right click the same sales green pill (triangle) -> edit table calculation**
74. You can see its calculating the MA of the previous 2
75. **Drag the sales green pill (triangle) to the table attributes tab to create an automatic calculated field and call it moving average**
76. **Create parameter "previous n days" -> Data type = integer -> current value = 2 -> allowable values = range -> check min , max and step size**
77. **Show parameter**
78. **Edit the moving average calculated field -> instead of 2 , enter the parameter "previous n days"(with a "-" before it, cause it was -2 earlier)**

79. Analyses: Let the user choose the field they want to have on y axis of the plot
80. Chart should change based on the selected measure value (sales/profits)
81. **Create parameter "choose measure"- data type string - allowable values "list" - give sales and next row profits - ok**
82. **Show parameter**
83. **Create calc field "CASE [choose measure] when "Sales" then [Sales] ELSE [Profit] END"**
84. **Columns - (order date); Rows - Calc Field**
85. Chart will change based on the selected parameter
86. OR

87. CASE [choose dimension]
88. WHEN 'customer'
89. THEN [Customer Name]
90. WHEN 'product'
91. THEN [Product Name]
92. WHEN 'state'
93. THEN [State]
94. END