DASHBOARD CREATION

Find examples of the following types of visualizations (or make your own up, including making the visualization) for the following. Create a dashboard using any visualization tools of your choice.

Domain: Finance –Healthcare – Census- Stock market, Weather data, Finance-Marketing, Insurance, Healthcare

Sheet 1: One Variable (choose any one)

- Nominal
- Ordinal
- Continuous

Sheet 2: Two Variables: (choose any two)

- Nominal + Nominal
- Nominal + Ordinal
- Nominal + Continuous
- Ordinal + Ordinal
- Ordinal + Continuous
- Continuous + Continuous

Sheet 3: Three Variables: (choose any one)

- any combination of 3 (nominal, ordinal, continuous)
- 3D spatial plus 1D continuous variable

Sheet 4: Multivariate Variables (your choice of visualization – one)

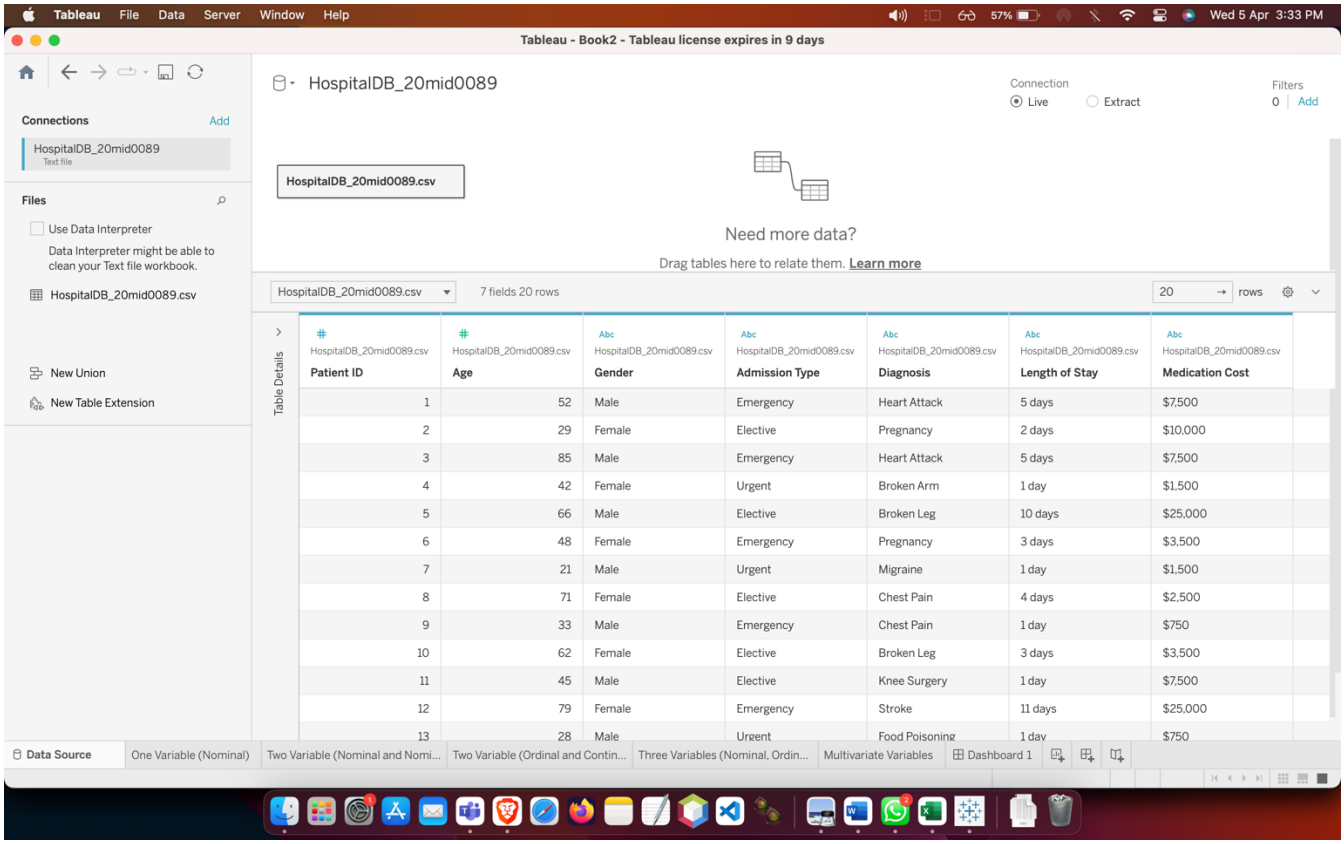
Layout example:

Title	
Univariate chart	**Bivariate Chart _1**
Bivariate Chart _2	**Three Variables**
Multivariate Chart	

DATASET:

	A	B	C	D	E	F	G
1	tient ID	Age	Gender	Admission Ty	Diagnosis	Length of Sta	Medication Cost
2	1	52	Male	Emergency	Heart Attack	5 days	$7,500
3	2	29	Female	Elective	Pregnancy	2 days	$10,000
4	3	85	Male	Emergency	Heart Attack	5 days	$7,500
5	4	42	Female	Urgent	Broken Arm	1 day	$1,500
6	5	66	Male	Elective	Broken Leg	10 days	$25,000
7	6	48	Female	Emergency	Pregnancy	3 days	$3,500
8	7	21	Male	Urgent	Migraine	1 day	$1,500
9	8	71	Female	Elective	Chest Pain	4 days	$2,500
10	9	33	Male	Emergency	Chest Pain	1 day	$750
11	10	62	Female	Elective	Broken Leg	3 days	$3,500
12	11	45	Male	Elective	Knee Surgery	1 day	$7,500
13	12	79	Female	Emergency	Stroke	11 days	$25,000
14	13	28	Male	Urgent	Food Poisoni	1 day	$750
15	14	56	Female	Elective	Migraine	4 days	$2,500
16	15	39	Male	Elective	Kidney Stone	2 days	$25,000
17	16	44	Female	Urgent	Asthma	1 day	$500
18	17	60	Male	Elective	Asthma	7 days	$10,000
19	18	31	Female	Emergency	Heart Attack	11 days	$25,000
20	19	75	Male	Urgent	Chest Pain	2 days	$3,500
21	20	50	Female	Elective	Breast Biops	3 days	$1,500
22							

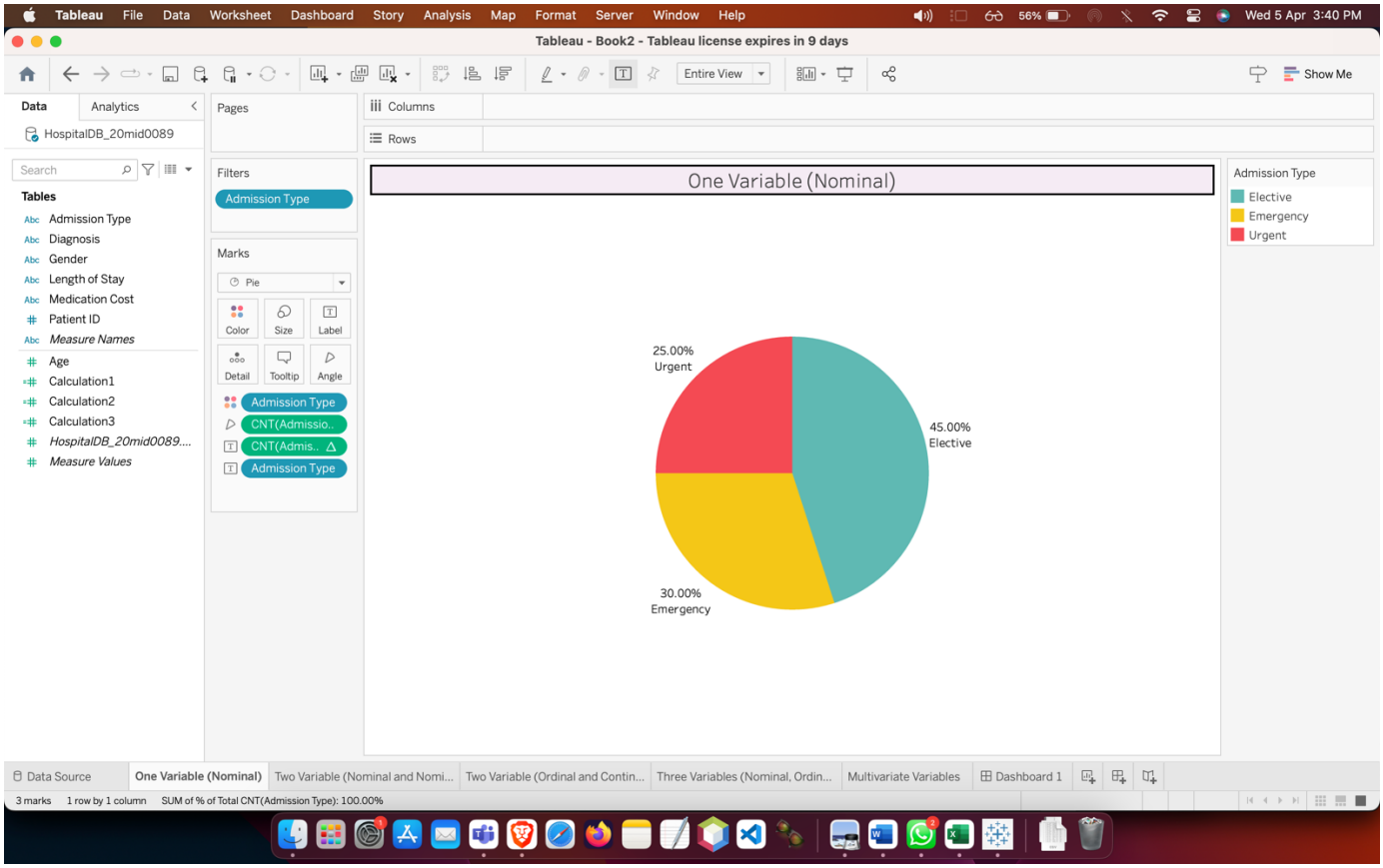
TABLEAU



Sheet 1: One Variable

Using Nominal Attribute (Admission Type).
For nominal univariate data visualization, we can use Pie chart, Bar chart, Stacked bar chart, Tree map.

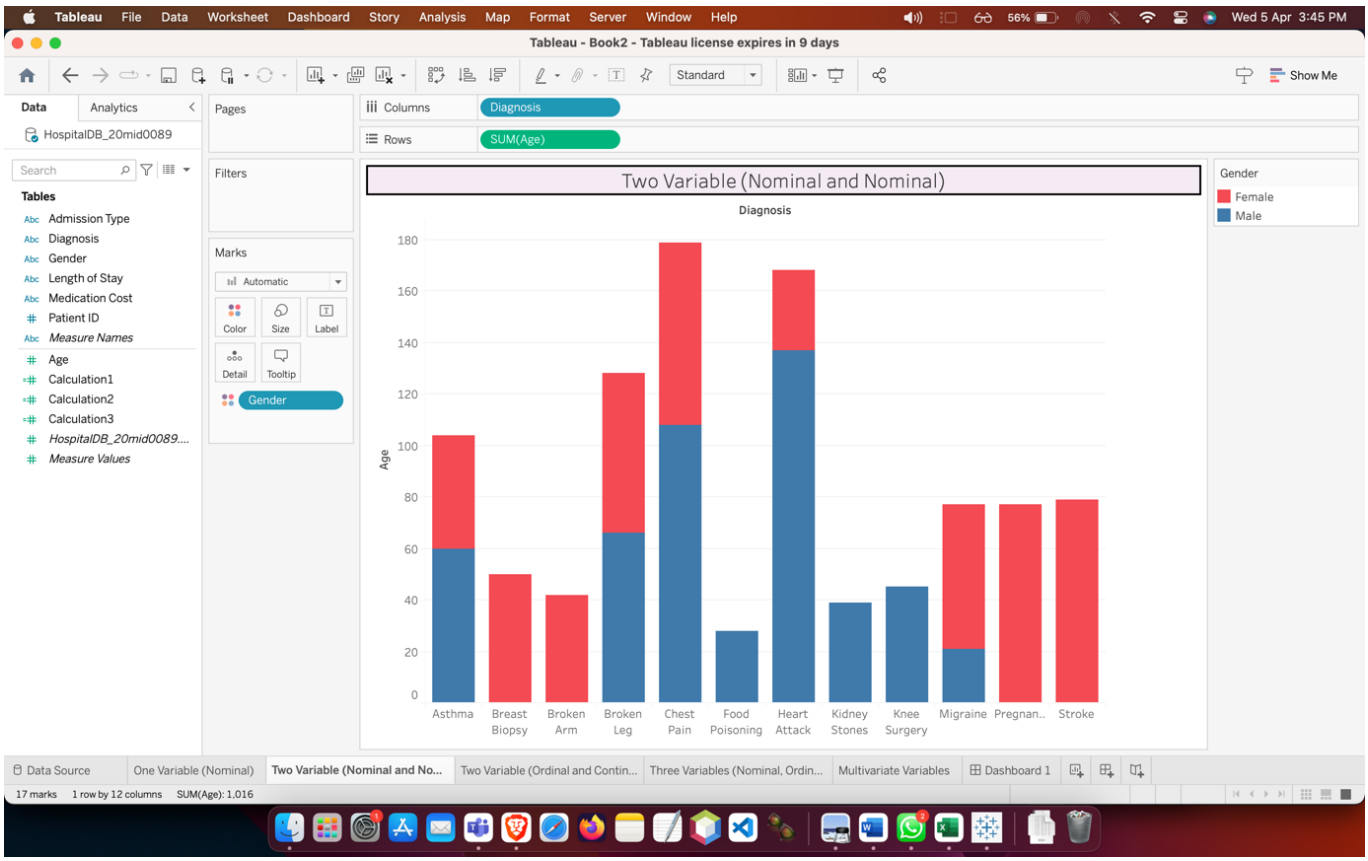
Pie chart:
A pie chart is a circular chart that is divided into slices to illustrate numerical proportions. It can be used to show the relative proportions of different categories in a nominal variable.



Sheet 2: Two Variables

Using Nominal Attributes (Diagnosis and Age).
For two variables we use: stacked bar chart, clustered bar chart, heat map, venn diagram et.

Stacked bar chart:
This type of chart can be used to display the distribution of two nominal variables by stacking the bars for each variable on top of each other. The height of each stack represents the frequency of the joint occurrence of the two variables.



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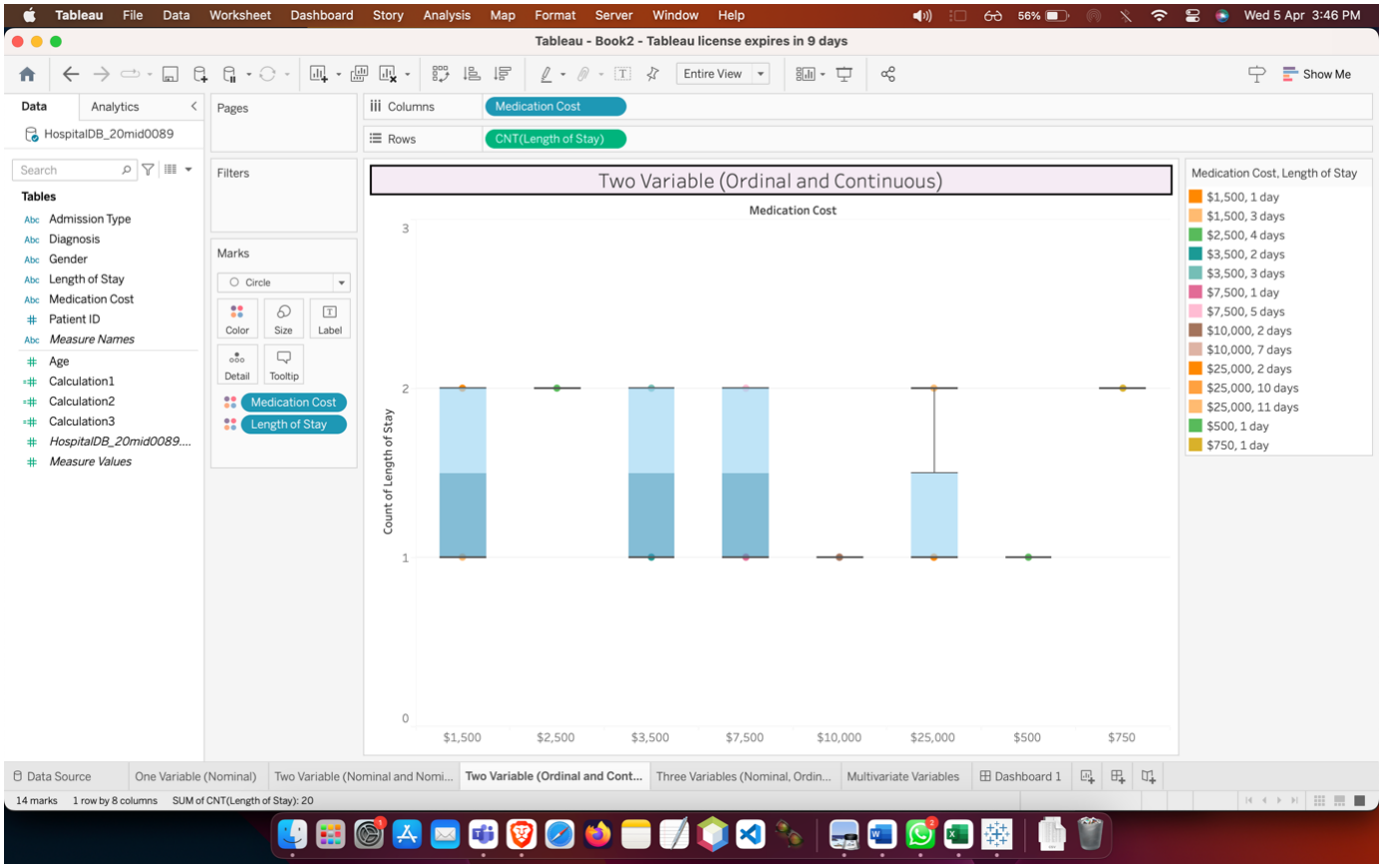
Using ordinal & continuous (Length of stay and Medication) for this we use boxplot:

Boxplot:

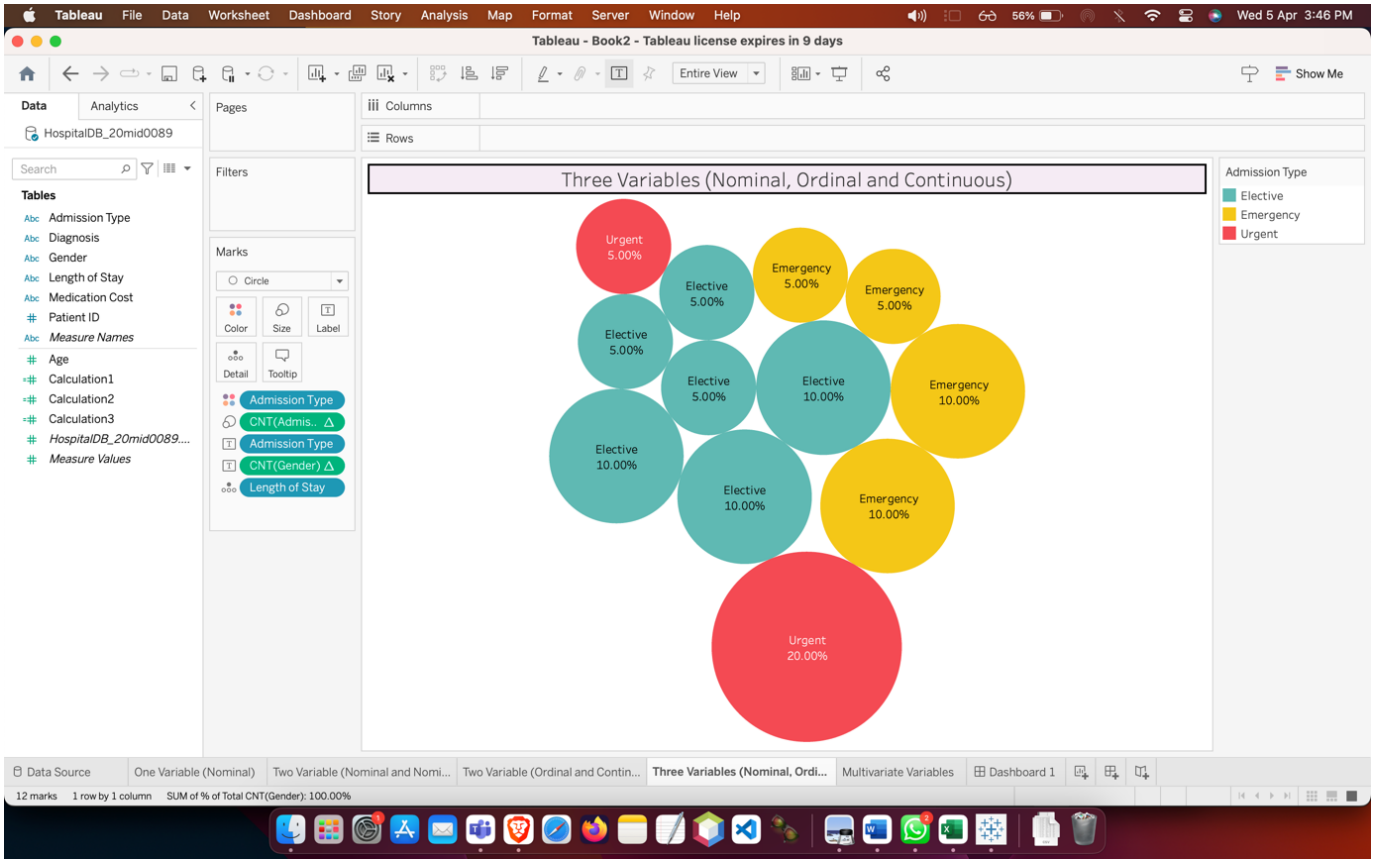
Box plots can be used to compare the distribution of a continuous variable across different categories of an ordinal variable. The box represents the middle 50% of the data, with the median shown as a line inside the box. The whiskers show the range of the data, and any outliers are shown as points outside the whiskers. This type of plot is useful for identifying differences in the center, spread, and skewness of the data across different groups.



Sheet_3: three variables (nominal, ordinal and continuous) for this we use bubble plot by the attributes Admission type, Gender and Length of stay.

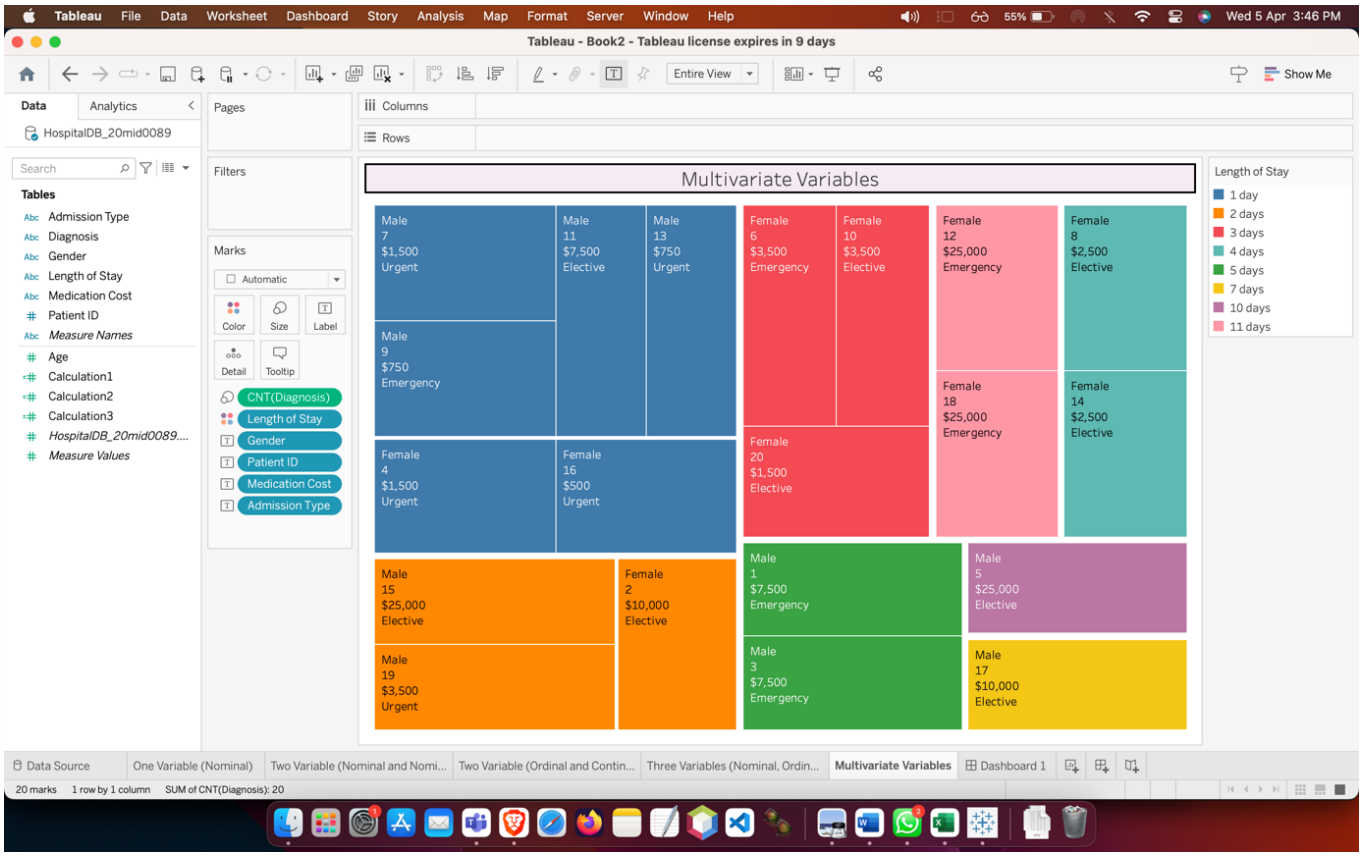
Bubble Plot:

Bubble plots can be used to display the relationship between an ordinal variable and a continuous variable, with each data point represented by a bubble sized according to the value of a nominal variable. This can be useful for identifying any patterns or trends in the data



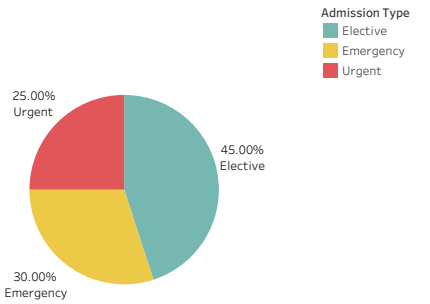
Sheet_4: Multivariate Variable
for this we use tree map, parallel coordinates, scatter plot matrix etc.. using tree map.

Tree Map:
A tree map is a hierarchical layout that displays data as nested rectangles, with each rectangle representing a different attribute or category. The size and color of each rectangle can be used to represent different variables or dimensions of the data.
Tree maps are often used to represent hierarchical data structures such as file directories, organizational structures, or product categories. They are also used in data analysis and business intelligence to display complex datasets and identify patterns and trends across multiple variables. Overall, tree maps are a useful tool for visualizing and analysing multivariate data in a way that is both intuitive and informative.

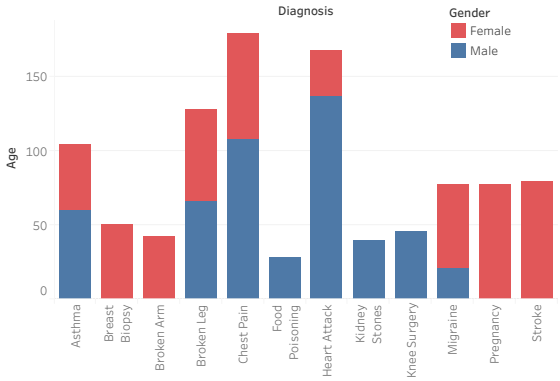


DASHBOARD:

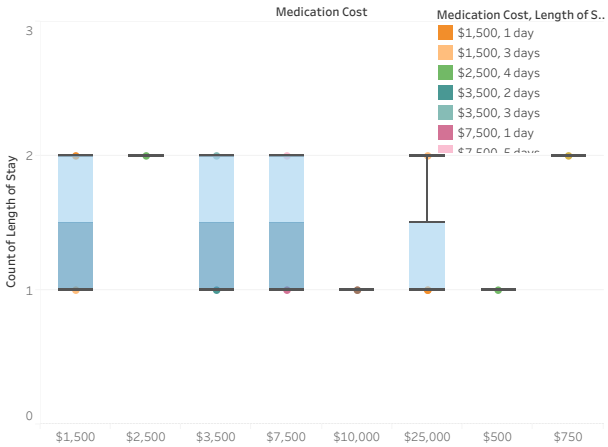
One Variable (Nominal)



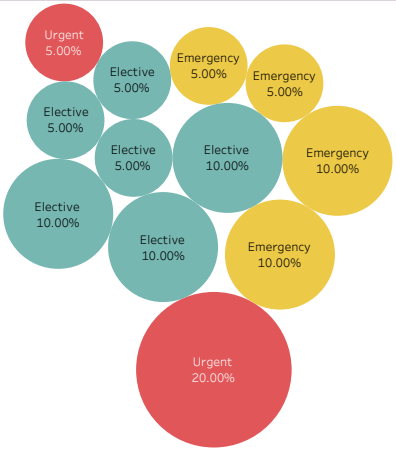
Two Variable (Nominal and Nominal)



Two Variable (Ordinal and Continuous)



Three Variables (Nominal, Ordinal and Continuous)



Multivariate Variables