Capstone Project In Microsoft Excel

Healthcare Data Analysis And Insights – 2024

by

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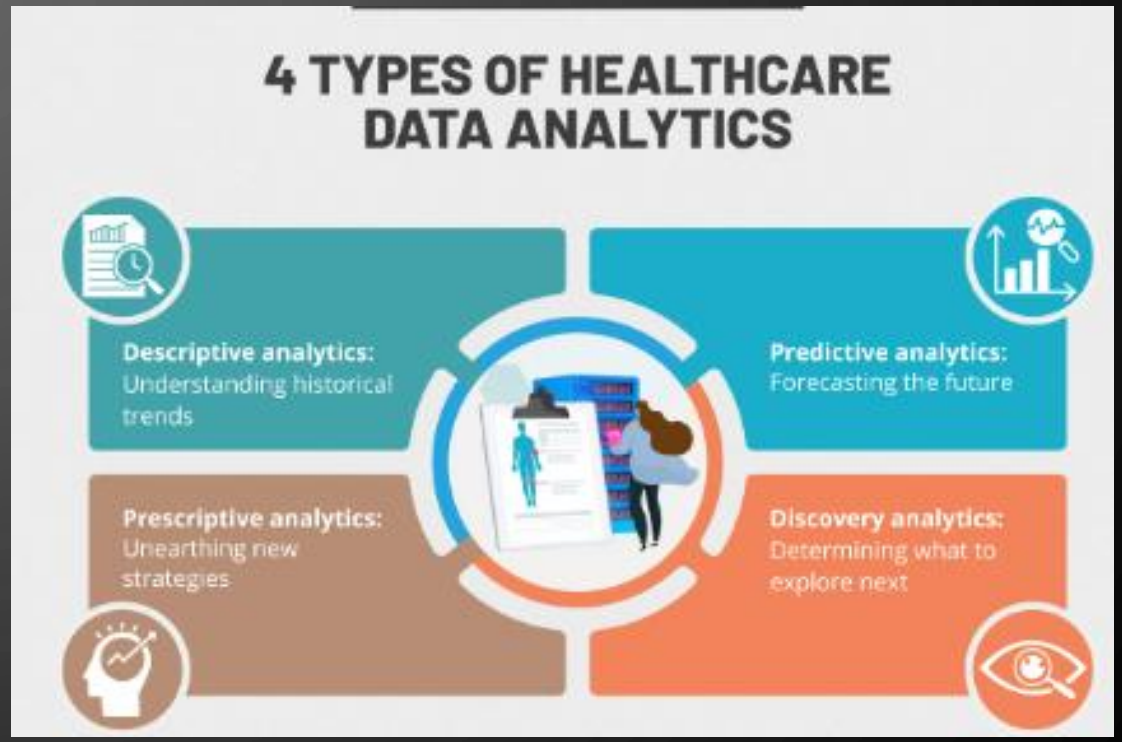
Healthcare Data Analysis And Insights

Healthcare data analysis" refers to the process of examining large volumes of medical data, including patient records, diagnoses, treatments, and other health information, to extract meaningful insights that can improve patient care, optimize operations, and inform healthcare decision-making by identifying patterns and trends within the data.



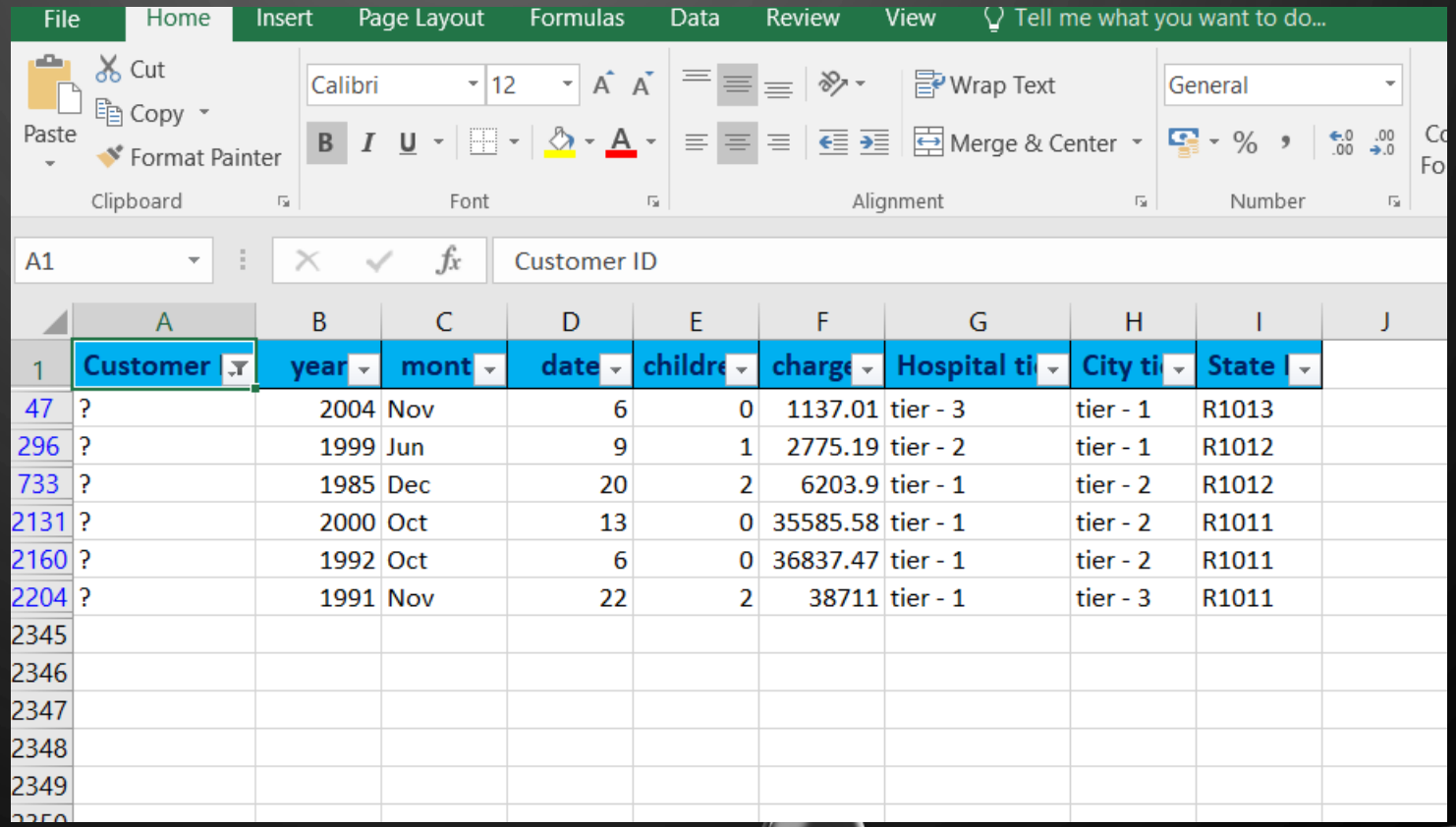
Project Title: Healthcare Data Analysis And Insights

Problem Statement: The Healthcare Industry Generates Vast Amounts Of Data Daily, Providing Valuable Insights For Healthcare Providers And Policymakers To Improve Patient Care, Allocate Resources Effectively, And Manage Healthcare Costs. This Project Aims To Analyze A Comprehensive Healthcare Dataset Comprising Medical Examinations, Hospitalization Details, And Customer Profiles To Extract Insights Into Patient Health Profiles, Medical Histories, And Healthcare Costs. By Exploring Relationships Between Various Health Metrics, Identifying Trends, And Visualizing Key Patterns, We Aim To Deliver Actionable Insights To Healthcare Stakeholders For Informed Decision-making Through Rigorous Data Cleaning, Transformation, Exploration, And Analysis.

DATA CLEANING

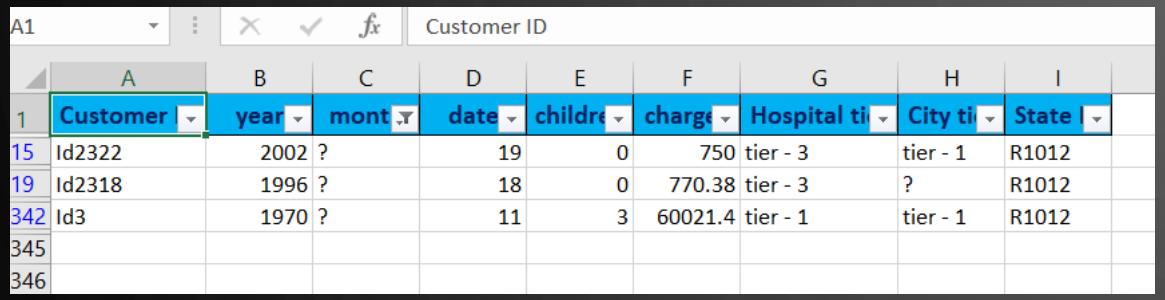
Check For The Number Of Missing Values Marked With '?' In Each Column Of The “Medical Examinations” Table And "Hospitalization Details" Table

- No of Missing values = 6

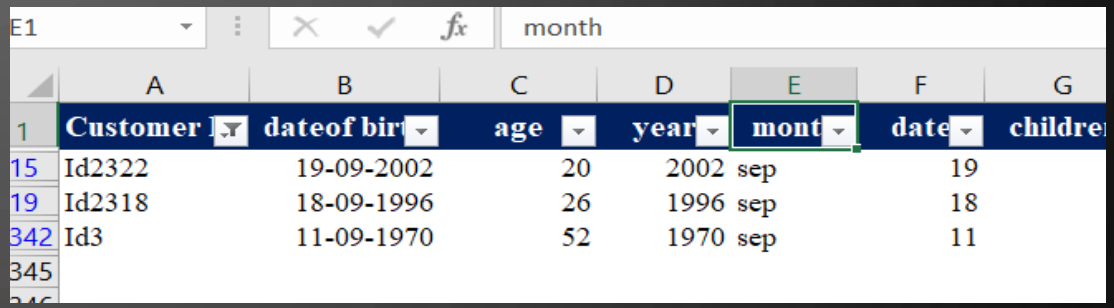


	A	B	C	D	E	F	G	H	I	J
1	Customer	year	mont	date	childre	charge	Hospital ti	City ti	State	
47	?	2004	Nov	6	0	1137.01	tier - 3	tier - 1	R1013	
296	?	1999	Jun	9	1	2775.19	tier - 2	tier - 1	R1012	
733	?	1985	Dec	20	2	6203.9	tier - 1	tier - 2	R1012	
2131	?	2000	Oct	13	0	35585.58	tier - 1	tier - 2	R1011	
2160	?	1992	Oct	6	0	36837.47	tier - 1	tier - 2	R1011	
2204	?	1991	Nov	22	2	38711	tier - 1	tier - 3	R1011	
2345										
2346										
2347										
2348										
2349										

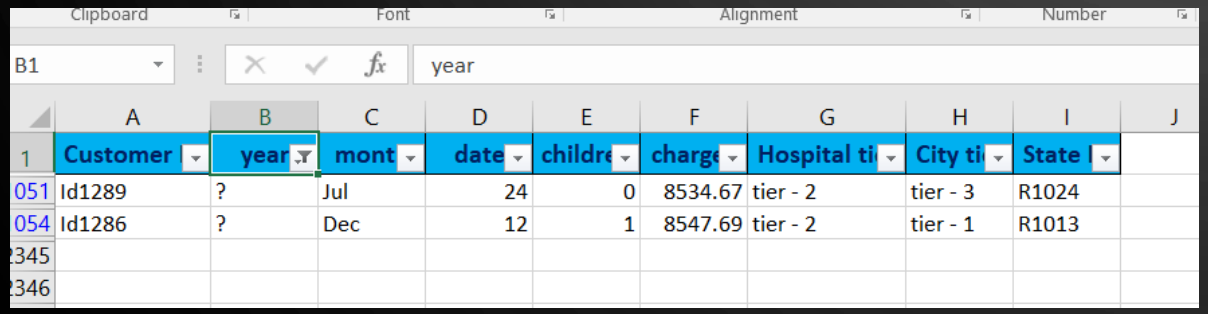
Fill In The Missing Values Of ‘Month’ With Sep And ‘Year’ With Its Average Rounded To The Nearest Integer.



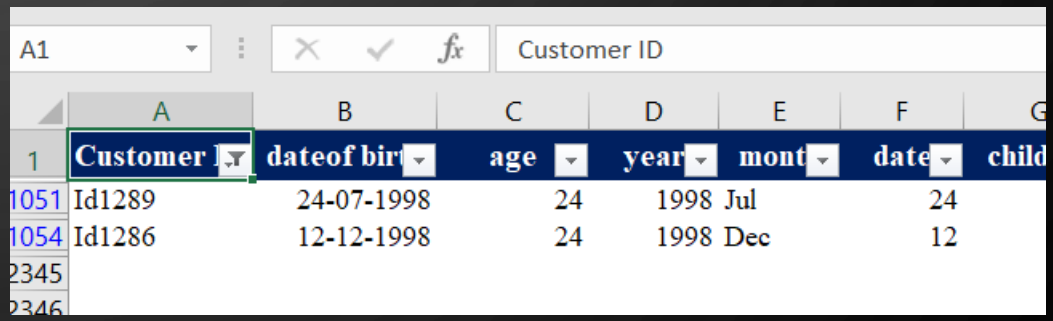
	A	B	C	D	E	F	G	H	I
1	Customer	year	mont	date	childre	charge	Hospital ti	City ti	State
15	Id2322	2002	?	19	0	750	tier - 3	tier - 1	R1012
19	Id2318	1996	?	18	0	770.38	tier - 3	?	R1012
342	Id3	1970	?	11	3	60021.4	tier - 1	tier - 1	R1012
345									
346									



	A	B	C	D	E	F	G
1	Customer I	dateof birt	age	year	mont	date	childre
15	Id2322	19-09-2002	20	2002	sep	19	
19	Id2318	18-09-1996	26	1996	sep	18	
342	Id3	11-09-1970	52	1970	sep	11	
345							

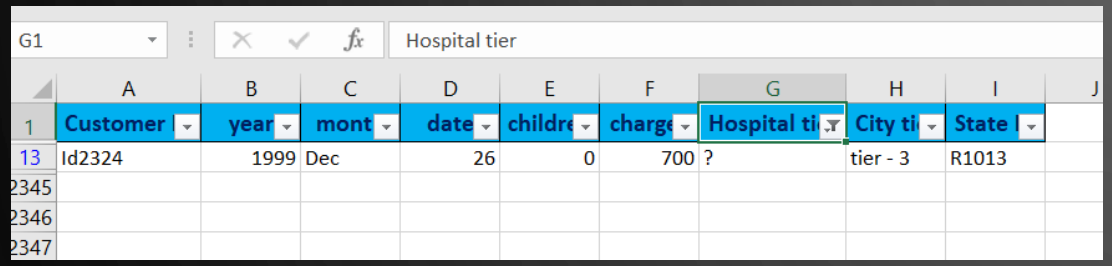


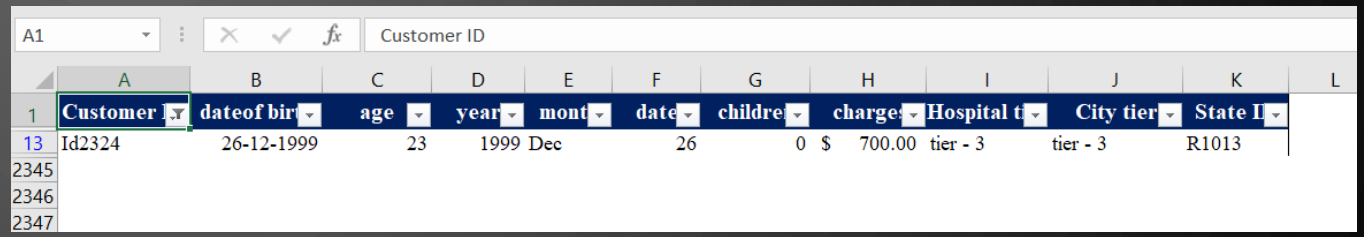
	A	B	C	D	E	F	G	H	I	J
1	Customer	year	mont	date	childre	charge	Hospital ti	City ti	State	
051	Id1289	?	Jul	24	0	8534.67	tier - 2	tier - 3	R1024	
054	Id1286	?	Dec	12	1	8547.69	tier - 2	tier - 1	R1013	
2345										
2346										

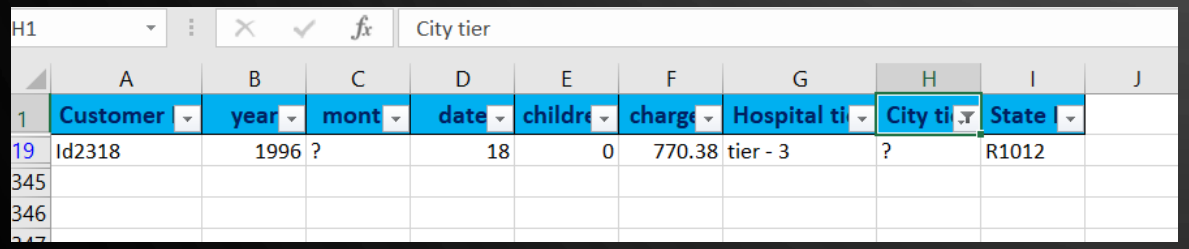


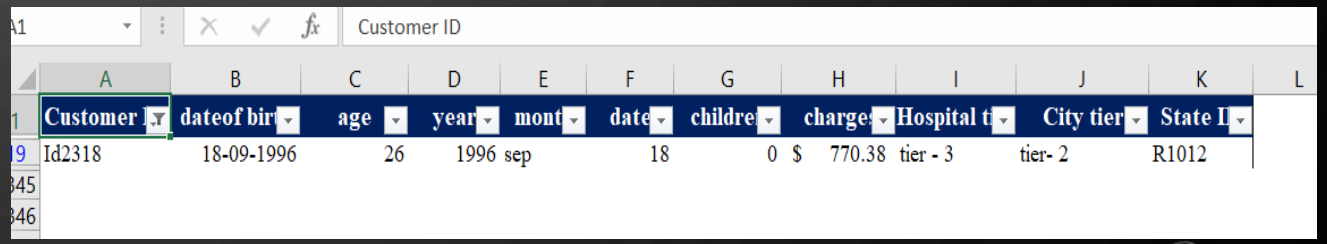
	A	B	C	D	E	F	G
1	Customer I	dateof birt	age	year	mont	date	child
1051	Id1289	24-07-1998	24	1998	Jul	24	
1054	Id1286	12-12-1998	24	1998	Dec	12	
2345							
2346							

Determine The Most Frequently Occurring Values In The ‘Smoker’, 'Hospital Tier' And 'City Tier' Columns, And Fill In The Missing Values Accordingly.

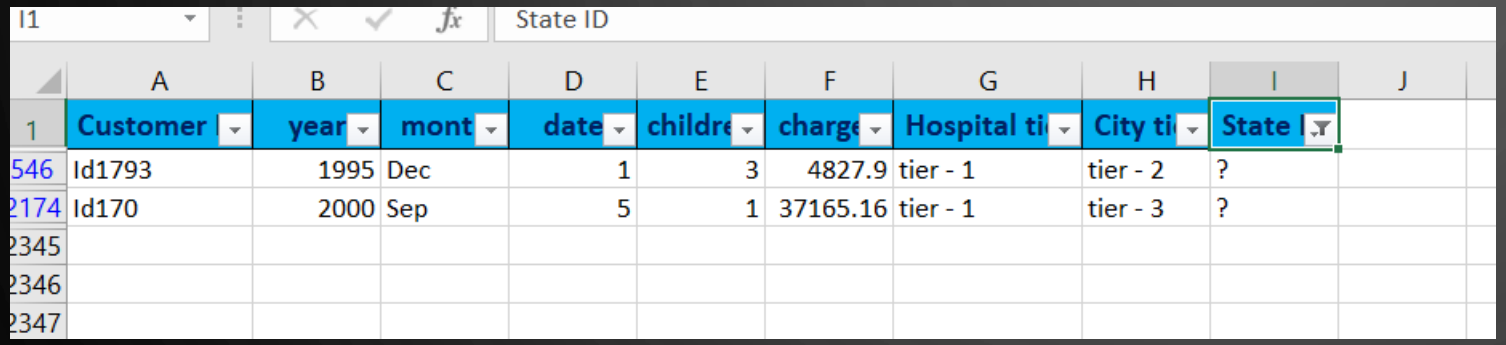


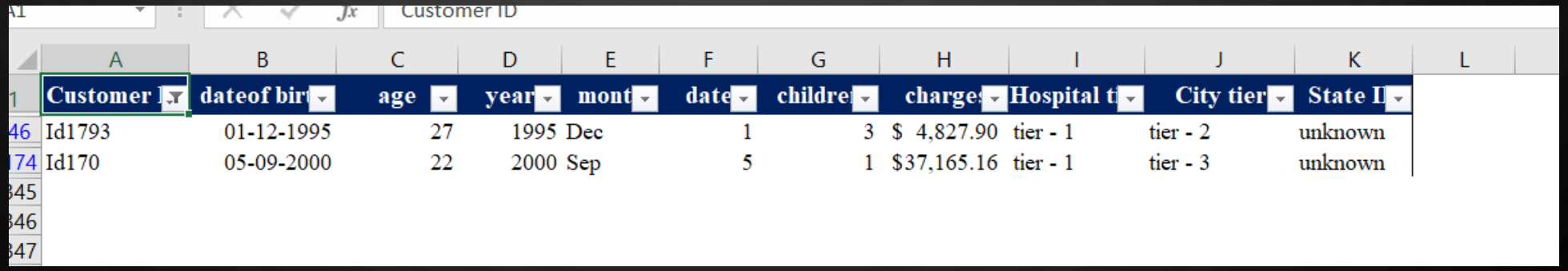






If Any 'State ID' Values Are Missing, Consider Filling Them With 'Unknown' Or Using Another Appropriate Strategy.





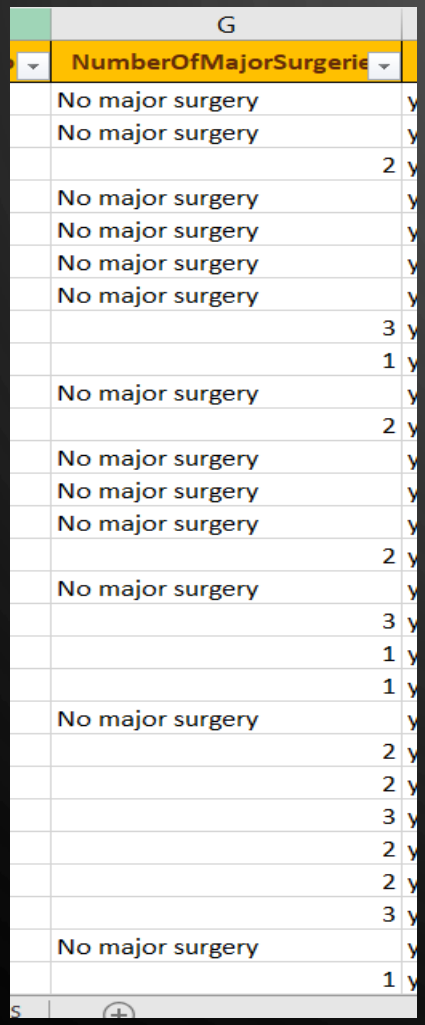
DATA TRANSFORMATION

Split The ‘Names’ Column In The “Customer Names” Table Into 3 Meaningful Columns: ‘Title’, ‘First Name’, And ‘Last Name’.

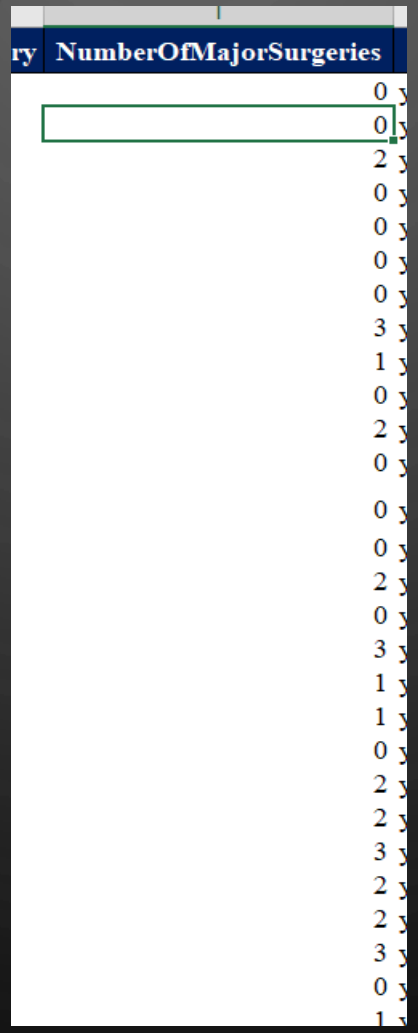
	A	B
1	Customer ID	name
2	Id1	Hawks, Ms. Kelly
3	Id2	Lehner, Mr. Matthew D
4	Id3	Lu, Mr. Phil
5	Id4	Osborne, Ms. Kelsey
6	Id5	Kadala, Ms. Kristyn
7	Id6	Baker, Mr. Russell B.
8	Id7	Macpherson, Mr. Scott
9	Id8	Hallman, Mr. Stephen
10	Id9	Moran, Mr. Patrick R.
11	Id10	Benner, Ms. Brooke N.
12	Id11	Fierro Vargas, Ms. Paola Andrea
13	Id12	Franz, Mr. David
14	Id13	Foster, Mr. Wade
15	Id14	Tenorio, Mr. Franklin
16	Id15	Rios, Ms. Leilani M.
17	Id16	Viau-Dupuis, Mr. Philippe
18	Id17	Cronin, Ms. Jennifer A.
19	Id18	Noordstar, Ms. Christina M.
20	Id19	Boudalia, Mr. Said Sr.
21	Id20	Flor, Mr. John
22	Id21	Fennon, Mr. Myles
23	Id22	Hribar, Ms. Madelyn C
24	Id23	Tassello, Ms. Nicole
25	Id24	Mauricette, Mr. Eric A.
26	Id25	Garcia, Mr. Emiliano I.

	A	B	C	D
1	Customer ID	Title	First name	Last name
2	Id2	Mr	Lehner	Matthew D
3	Id3	Mr	Lu	Phil
4	Id6	Mr	Baker	Russell B
5	Id7	Mr	Macpherson	Scott
6	Id8	Mr	Hallman	Stephen
7	Id9	Mr	Moran	Patrick R
8	Id12	Mr	Franz	David
9	Id13	Mr	Foster	Wade
10	Id14	Mr	Tenorio	Franklin
11	Id16	Mr	Viau-Dupuis	Philippe
12	Id19	Mr	Boudalia	Said Sr
13	Id20	Mr	Flor	John
14	Id21	Mr	Fennon	Myles
15	Id24	Mr	Mauricette	Eric A
16	Id25	Mr	Garcia	Emiliano I
17	Id26	Mr	Airoldi	Adam
18	Id27	Mr	Cater-Cyker	Zach
19	Id29	Mr	Cox	Stephen
20	Id32	Mr	Welch	Jefferson D
21	Id33	Mr	Prindiville	Brendan D
22	Id36	Mr	Lachance	Julien
23	Id37	Mr	Eason	Ryan M
24	Id40	Mr	Fisher	Robert
25	Id41	Mr	Jenkins	James R
26	Id44	Mr	McElwain	Spencer

Convert The "Numberofmajorsurgeries" Column In The “Medical Examinations” Table To Numerical Data By Replacing Non-numeric Characters With Meaningful Numerical Values.

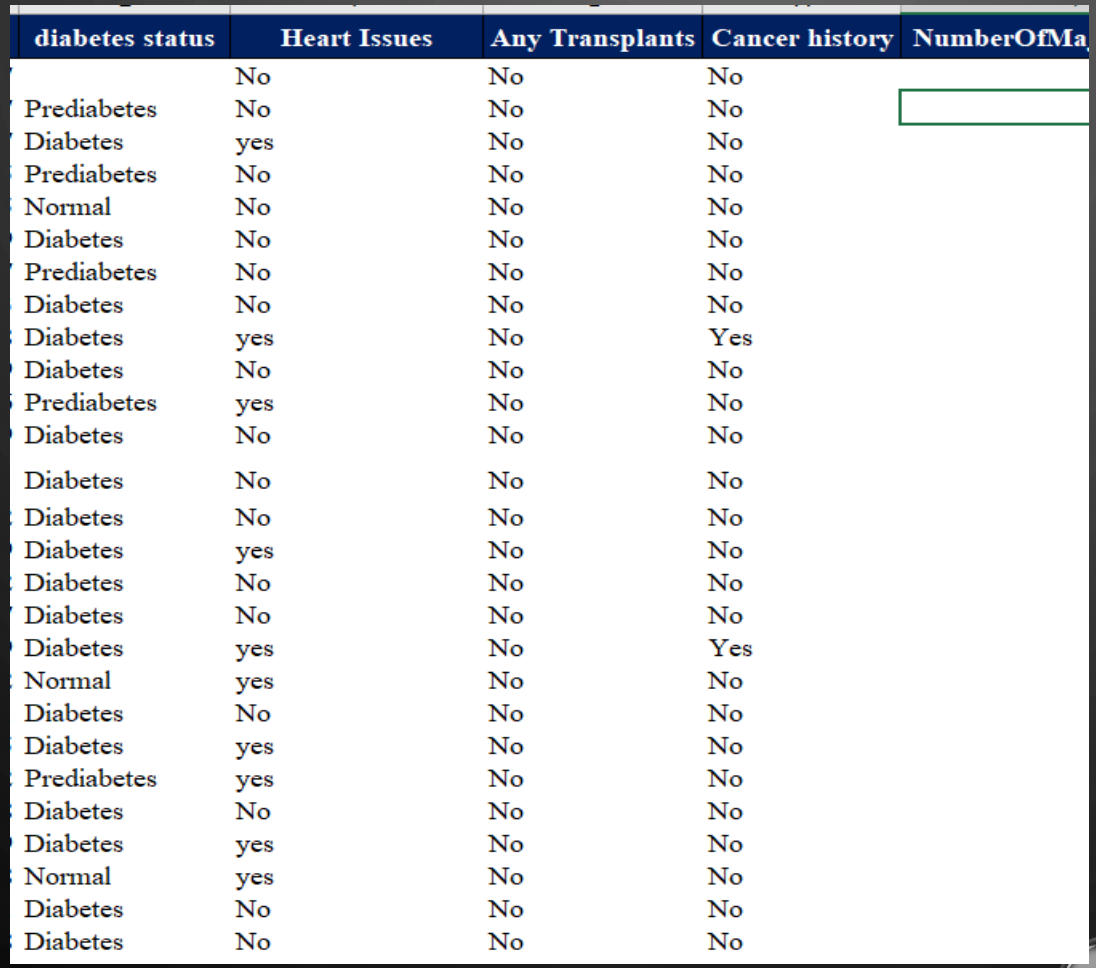


G
NumberOfMajorSurgerie
No major surgery
No major surgery
2
No major surgery
No major surgery
No major surgery
No major surgery
3
1
No major surgery
2
No major surgery
No major surgery
No major surgery
2
No major surgery
3
1
1
No major surgery
2
2
3
2
2
3
No major surgery
1



ry	NumberOfMajorSurgeries
	0
	0
	2
	0
	0
	0
	0
	3
	1
	0
	2
	0
	0
	0
	2
	0
	3
	1
	1
	0
	2
	2
	3
	2
	2
	3
	0
	1

Check For Inconsistencies In The 'Heart Issues' And 'Smoker' Columns And Propose Corrective Actions If Necessary.



diabetes status	Heart Issues	Any Transplants	Cancer history	NumberOfMa
	No	No	No	
Prediabetes	No	No	No	
Diabetes	yes	No	No	
Prediabetes	No	No	No	
Normal	No	No	No	
Diabetes	No	No	No	
Prediabetes	No	No	No	
Diabetes	No	No	No	
Diabetes	yes	No	Yes	
Diabetes	No	No	No	
Prediabetes	yes	No	No	
Diabetes	No	No	No	
Diabetes	No	No	No	
Diabetes	No	No	No	
Diabetes	yes	No	No	
Diabetes	No	No	No	
Diabetes	No	No	No	
Diabetes	yes	No	Yes	
Normal	yes	No	No	
Diabetes	No	No	No	
Diabetes	yes	No	No	
Prediabetes	yes	No	No	
Diabetes	No	No	No	
Diabetes	yes	No	No	
Normal	yes	No	No	
Diabetes	No	No	No	
Diabetes	No	No	No	

Create A New Column Named “Weight Status” That Categorizes BMI Into Different Categories As Below:

BMI	weight stat
47.41	Obesity
30.36	Obesity
34.485	Obesity
38.095	Obesity
35.53	Obesity
32.8	Obesity
36.4	Obesity
36.96	Obesity
41.14	Obesity
38.06	Obesity
37.7	Obesity
42.13	Obesity
40.92	Obesity
40.565	Obesity
36.385	Obesity
39.9	Obesity
33.8	Obesity
36.765	Obesity
36.955	Obesity
42.9	Obesity
36.3	Obesity
32.2	Obesity
31.3	Obesity
41.8	Obesity
35.09	Obesity
33.88	Obesity
30.875	Obesity
36.86	Obesity
35.86	Obesity

Create A New Column Named “Diabetes Status” And Fill It As Per The Information Given Below:

HBA1C	diabetes statu
7.47	Diabetes
5.77	Prediabetes
11.87	Diabetes
6.05	Prediabetes
5.45	Normal
6.59	Diabetes
6.07	Prediabetes
7.93	Diabetes
9.58	Diabetes
10.79	Diabetes
5.96	Prediabetes
11.9	Diabetes
8.41	Diabetes
7.02	Diabetes
7.59	Diabetes
11.32	Diabetes
7.67	Diabetes
7.29	Diabetes
4.72	Normal
11.41	Diabetes
11.5	Diabetes
6.22	Prediabetes
11.38	Diabetes
7.89	Diabetes
4.38	Normal
7.01	Diabetes
11.88	Diabetes
5.19	Normal
6.74	Diabetes

Merge ‘Year’, ‘Month’ And ‘Date’ Columns In The “Hospitalization Details” Table Into One Column Named ‘Date Of Birth’ And Format It In ‘DD-MMM-YYYY’ Custom Format.

B	C	D	E	F
dateof birth	age	year	month	date
09-07-1992	30	1992	Jul	9
30-11-1992	30	1992	Nov	30
30-06-1993	29	1993	Jun	30
13-09-1992	30	1992	Sep	13
27-07-1998	24	1998	Jul	27
20-11-2001	21	2001	Nov	20
01-06-1993	30	1993	Jun	1
04-07-1995	27	1995	Jul	4
29-11-2002	20	2002	Nov	29
09-11-1997	25	1997	Nov	9
12-09-2001	21	2001	Sep	12
26-12-1999	23	1999	Dec	26
14-12-1999	23	1999	Dec	14
19-09-2002	20	2002	sep	19
09-08-1993	29	1993	Aug	9
22-10-1996	26	1996	Oct	22
28-06-1993	29	1993	Jun	28
18-09-1996	26	1996	sep	18
07-12-1995	27	1995	Dec	7
07-10-2004	18	2004	Oct	7
18-11-2000	22	2000	Nov	18
27-11-1993	29	1993	Nov	27
30-10-1994	28	1994	Oct	30
28-10-1995	27	1995	Oct	28
19-08-2001	21	2001	Aug	19
22-11-1994	28	1994	Nov	22
09-10-2000	22	2000	Oct	9
05-08-1999	23	1999	Aug	5

Calculate The ‘Age’ Of Each Customer Based On Their ‘Date Of Birth’ And The Date Of Collection Of The Dataset, Which Is 8 Th June 2023. (Hint: Use The DATEDIF Function)

B	C	D	E	F
dateof birth	age	year	month	date
09-07-1992	30	1992	Jul	9
30-11-1992	30	1992	Nov	30
30-06-1993	29	1993	Jun	30
13-09-1992	30	1992	Sep	13
27-07-1998	24	1998	Jul	27
20-11-2001	21	2001	Nov	20
01-06-1993	30	1993	Jun	1
04-07-1995	27	1995	Jul	4
29-11-2002	20	2002	Nov	29
09-11-1997	25	1997	Nov	9
12-09-2001	21	2001	Sep	12
26-12-1999	23	1999	Dec	26
14-12-1999	23	1999	Dec	14
19-09-2002	20	2002	sep	19
09-08-1993	29	1993	Aug	9
22-10-1996	26	1996	Oct	22
28-06-1993	29	1993	Jun	28
18-09-1996	26	1996	sep	18
07-12-1995	27	1995	Dec	7
07-10-2004	18	2004	Oct	7
18-11-2000	22	2000	Nov	18
27-11-1993	29	1993	Nov	27
30-10-1994	28	1994	Oct	30
28-10-1995	27	1995	Oct	28
19-08-2001	21	2001	Aug	19
22-11-1994	28	1994	Nov	22
09-10-2000	22	2000	Oct	9
05-08-1999	23	1999	Aug	5

- Format ‘Charges’ Column As Currency ($).

	H	
	charges	H
0	$ 563.84	ti
0	$ 570.62	ti
0	$ 600.00	ti
0	$ 604.54	ti
0	$ 637.26	ti
0	$ 646.14	ti
0	$ 650.00	ti
0	$ 650.00	ti
0	$ 668.00	ti
0	$ 670.00	ti
0	$ 687.54	ti
0	$ 700.00	ti
0	$ 722.99	ti
0	$ 750.00	ti
0	$ 760.00	ti
0	$ 760.00	ti
0	$ 770.00	ti
0	$ 770.38	ti
0	$ 773.54	ti
0	$ 830.52	ti
0	$ 865.41	ti
0	$ 896.21	ti

DATA EXPLORATION

Customer Names Table:

➢ Are There Any Duplicate Customer Ids In The Dataset? If Yes, How Many?

➢ How Many Customers Are Included In The Dataset?

No duplicate Customer IDs in the dataset?	
Total number of customers are included in data set	2336

Medical Examination Table:

- How Many Customers Have A History Of Cancer?
- How Many Obese Customers Have Heart Issues?
- What Is The Total Number Of Major Surgeries Performed On Customers?
- Calculate The Percentage Of Customers Who Have Undergone Any Transplants.
- Find The Average Hba1c Value Of Customers Who Are Smokers.

Data exploration

Total number of cancer history customer	391
Total number of obese customer had a Heart issues	497
The total number of major surgeries performed for customer	1579
The percentage of customer have undergone Any transplants	1674%
The average HBA1C value of customers who are smokers	6.578998
Total numuber of HBA1c	2335
Total number of smoker	488

Hospitalization Details Table:

- Calculate All The Summary Statistics For The ‘Charges’ Column.
- Find The Average Hospitalization Charges For Customers Who Are More Than 50 Years Old.
- Compare The Total Charges Across Different Hospital Tiers.
- Calculate The Average Charges For People Who Have More Than 2 Children.
- Find The Integer Average Number Of Children Of Customers Who Are Less Than 40 Years Old.

The Summary statistics for the ‘charges’ column.

Count	2343
Average	$13,559.07
Median	$ 9,634.54
Mode	650
Min	$ 563.84
Max	$63,770.43
Standard deviation	11922.6584

The average hospitalization charges for customer who are more than 50 years	17856.79

Total charges of different Hospital tier

Row Labels	Sum of charges
tier - 1	9310917
tier - 2	15898789
tier - 3	6559190
Grand Total	**31768896**

The average charges for people who have more than 2 children	14217.5205

The average number of children of customer who are less than 40 years	1

DATA ANALYSIS

Create A New Sheet Named “Healthcare", Combine All Three Tables Into One, Using Customer ID As The Common Column, Utilizing VLOOKUP.

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Customer ID	First name	BMI	HBA1C	Heart Issues	Any Transplants	Cancer history	Number of MajorSurgeries	Smoker	Weight status	Diabetes status	Date of birth	Charges	Hospital ti
Id2	Lehner	30.36	5.77	No	No	No	0	yes	Obesity	Prediabetes	08-06-1977	62592.87	tier - 2
Id3	Lu	34.485	11.87	yes	No	No	2	yes	Obesity	Diabetes	11-09-1970	60021.4	tier - 1
Id6	Baker	32.8	6.59	No	No	No	0	yes	Obesity	Diabetes	04-08-1962	52590.83	tier - 1
Id7	Macpherson	36.4	6.07	No	No	No	0	yes	Obesity	Prediabetes	27-10-1994	51194.56	tier - 1
Id8	Hallman	36.96	7.93	No	No	No	3	yes	Obesity	Diabetes	27-06-1958	49577.66	tier - 2
Id9	Moran	41.14	9.58	yes	No	Yes	1	yes	Obesity	Diabetes	04-09-1963	48970.25	tier - 1
Id12	Franz	42.13	11.9	No	No	No	0	yes	Obesity	Diabetes	27-10-1965	48675.52	tier - 1
Id13	Foster	40.92	8.41	No	No	No	0	yes	Obesity	Diabetes	11-10-1962	48673.56	tier - 1
Id14	Tenorio	40.565	7.02	No	No	No	0	yes	Obesity	Diabetes	01-12-1968	48549.18	tier - 1
Id16	Viau-Dupuis	39.9	11.32	No	No	No	0	yes	Obesity	Diabetes	27-08-1962	48173.36	tier - 1
Id19	Boudalia	36.955	4.72	yes	No	No	1	yes	Obesity	Normal	07-11-1964	47496.49	tier - 1
Id20	Flor	42.9	11.41	No	No	No	0	yes	Obesity	Diabetes	27-09-1971	47462.89	tier - 1
Id21	Fennon	36.3	11.5	yes	No	No	2	yes	Obesity	Diabetes	13-06-1961	47403.88	tier - 1
Id24	Mauricette	41.8	7.89	yes	No	No	2	yes	Obesity	Diabetes	28-12-1970	47269.85	tier - 1
Id25	Garcia	35.09	4.38	yes	No	No	2	yes	Obesity	Normal	14-07-1959	47055.53	tier - 2
Id26	Airoldi	33.88	7.01	No	No	No	3	yes	Obesity	Diabetes	15-09-1958	46889.26	tier - 2
Id27	Cater-Cyker	30.875	11.88	No	No	No	0	yes	Obesity	Diabetes	17-11-1960	46718.16	tier - 1
Id29	Cox	35.86	6.74	yes	No	No	2	yes	Obesity	Diabetes	08-08-1961	46599.11	tier - 1
Id32	Welch	42.35	5.08	yes	No	No	0	yes	Obesity	Normal	02-12-1976	46151.12	tier - 1
Id33	Prindiville	31.35	6.86	No	No	No	0	yes	Obesity	Diabetes	04-12-1962	46130.53	tier - 1
Id36	Lachance	32.015	11.75	No	No	No	0	yes	Obesity	Diabetes	21-12-1960	45710.21	tier - 2
Id37	Eason	40.565	7.37	No	No	No	0	yes	Obesity	Diabetes	09-08-1974	45702.02	tier - 2
Id40	Fisher	35.5	5.14	No	No	Yes	1	yes	Obesity	Normal	11-10-1993	44585.46	tier - 2
Id41	Jenkins	52.58	4.19	No	yes	No	1	yes	Obesity	Normal	02-08-2000	44501.4	tier - 2
Id44	McElwain	34.21	8.34	No	No	No	0	yes	Obesity	Diabetes	24-11-1968	44260.75	tier - 2

Retain The Following Necessary Columns: Customer ID, First Name, BMI, HBA1C, Heart Issues, Any Transplants, Cancer History, Number of major surgeries, Smoker, Weight Status, Diabetes Status, Date Of Birth, Charges, Hospital Tier, City Tier, State ID, Age.

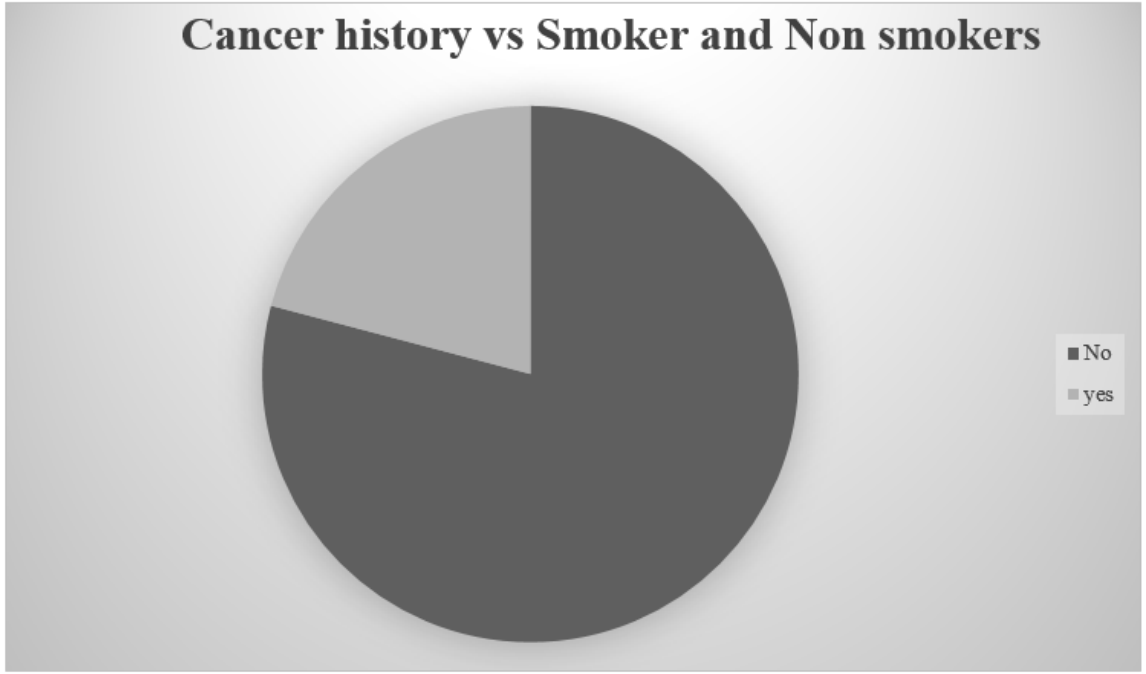
Customer ID	First name	BMI	HBA1C	Heart Issues	Any Transplants	Cancer history	Number of MajorSurgeries	Smoker	Weight status	Diabetes status	Date of birth	Charges	Hospital tier	City tier	State ID	age
Id2	Lehner	30.36	5.77	No	No	No	0	yes	Obesity	Prediabetes	08-06-1977	62592.87	tier - 2	tier - 3	R1013	46
Id3	Lu	34.485	11.87	yes	No	No	2	yes	Obesity	Diabetes	11-09-1970	60021.4	tier - 1	tier - 1	R1012	52
Id6	Baker	32.8	6.59	No	No	No	0	yes	Obesity	Diabetes	04-08-1962	52590.83	tier - 1	tier - 3	R1011	60
Id7	Macpherson	36.4	6.07	No	No	No	0	yes	Obesity	Prediabetes	27-10-1994	51194.56	tier - 1	tier - 3	R1011	28
Id8	Hallman	36.96	7.93	No	No	No	3	yes	Obesity	Diabetes	27-06-1958	49577.66	tier - 2	tier - 2	R1013	64
Id9	Moran	41.14	9.58	yes	No	Yes	1	yes	Obesity	Diabetes	04-09-1963	48970.25	tier - 1	tier - 2	R1013	59
Id12	Franz	42.13	11.9	No	No	No	0	yes	Obesity	Diabetes	27-10-1965	48675.52	tier - 1	tier - 2	R1013	57
Id13	Foster	40.92	8.41	No	No	No	0	yes	Obesity	Diabetes	11-10-1962	48673.56	tier - 1	tier - 2	R1013	60
Id14	Tenorio	40.565	7.02	No	No	No	0	yes	Obesity	Diabetes	01-12-1968	48549.18	tier - 1	tier - 3	R1016	54
Id16	Viau-Dupuis	39.9	11.32	No	No	No	0	yes	Obesity	Diabetes	27-08-1962	48173.36	tier - 1	tier - 3	R1011	60
Id19	Boudalia	36.955	4.72	yes	No	No	1	yes	Obesity	Normal	07-11-1964	47496.49	tier - 1	tier - 3	R1012	58
Id20	Flor	42.9	11.41	No	No	No	0	yes	Obesity	Diabetes	27-09-1971	47462.89	tier - 1	tier - 2	R1013	51
Id21	Fennon	36.3	11.5	yes	No	No	2	yes	Obesity	Diabetes	13-06-1961	47403.88	tier - 1	tier - 3	R1011	61
Id24	Mauricette	41.8	7.89	yes	No	No	2	yes	Obesity	Diabetes	28-12-1970	47269.85	tier - 1	tier - 2	R1013	52
Id25	Garcia	35.09	4.38	yes	No	No	2	yes	Obesity	Normal	14-07-1959	47055.53	tier - 2	tier - 1	R1013	63
Id26	Airoldi	33.88	7.01	No	No	No	3	yes	Obesity	Diabetes	15-09-1958	46889.26	tier - 2	tier - 3	R1013	64
Id27	Cater-Cyker	30.875	11.88	No	No	No	0	yes	Obesity	Diabetes	17-11-1960	46718.16	tier - 1	tier - 1	R1012	62
Id29	Cox	35.86	6.74	yes	No	No	2	yes	Obesity	Diabetes	08-08-1961	46599.11	tier - 1	tier - 1	R1013	61
Id32	Welch	42.35	5.08	yes	No	No	0	yes	Obesity	Normal	02-12-1976	46151.12	tier - 1	tier - 3	R1013	46
Id33	Prindiville	31.35	6.86	No	No	No	0	yes	Obesity	Diabetes	04-12-1962	46130.53	tier - 1	tier - 1	R1012	60
Id36	Lachance	32.015	11.75	No	No	No	0	yes	Obesity	Diabetes	21-12-1960	45710.21	tier - 2	tier - 2	R1016	62
Id37	Eason	40.565	7.37	No	No	No	0	yes	Obesity	Diabetes	09-08-1974	45702.02	tier - 2	tier - 2	R1012	48
Id40	Fisher	35.5	5.14	No	No	Yes	1	yes	Obesity	Normal	11-10-1993	44585.46	tier - 2	tier - 2	R1011	29
Id41	Jenkins	52.58	4.19	No	yes	No	1	yes	Obesity	Normal	02-08-2000	44501.4	tier - 2	tier - 3	R1013	22
Id44	McElwain	34.21	8.34	No	No	No	0	yes	Obesity	Diabetes	24-11-1968	44260.75	tier - 2	tier - 1	R1013	54
Id45	Januszewski	38.94	8.49	yes	No	No	1	yes	Obesity	Diabetes	01-06-1975	44202.65	tier - 2	tier - 2	R1013	48
Id47	O'Grady	33.63	4.43	yes	No	No	2	yes	Obesity	Normal	05-10-1966	43921.18	tier - 2	tier - 2	R1012	56
Id49	De Simone	53.09	4.82	yes	No	No	2	yes	Obesity	Normal	02-07-1966	43817.45	tier - 2	tier - 3	R1012	56

ANALYSIS USING PIE/DONUT CHART

what is the distribution of cancer history among smokers and non-smokers?

What is the distribution of cancer history among smokers and non-smokers?

Row Labels	Count of Cancer history
No	1847
yes	488
Grand Total	2335



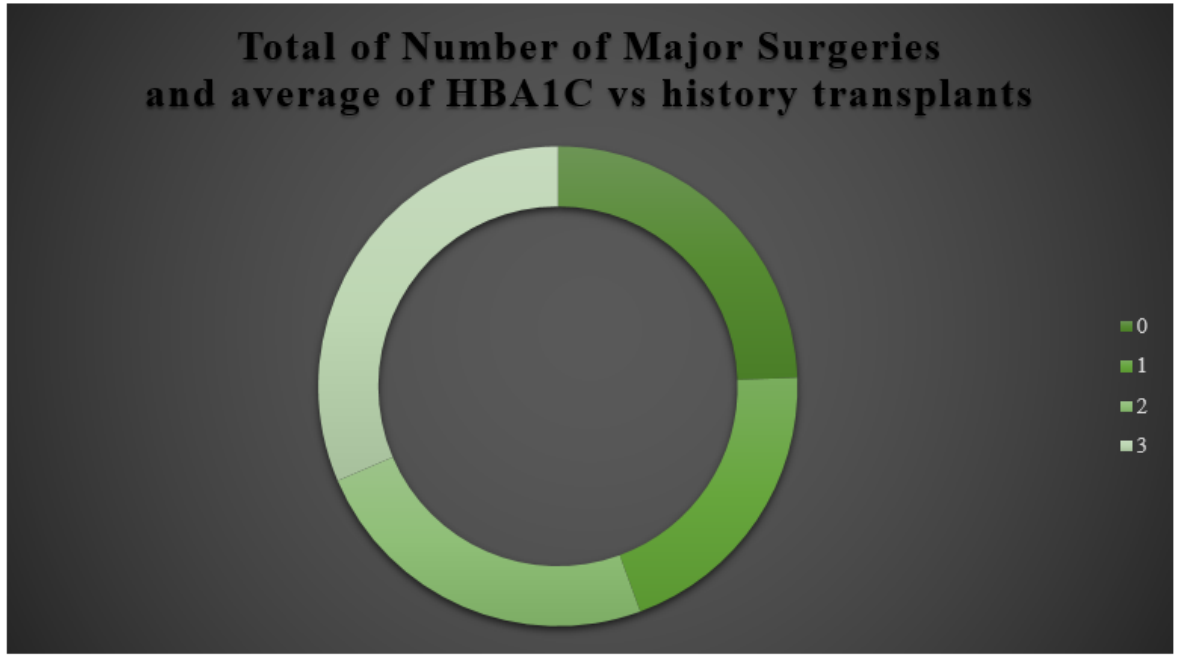
How Does The Total Number Of Major Surgeries And Average Hba1c Differ Between Patients With And Without A History Of Transplants?

How does the total number of major surgeries and average HbA1C differ between patients with and without a history of transplants?

Chart Title

Any Transplants	(All)

Row Labels	Average of HBA1C
0	7.103137803
1	5.811658031
2	7.021094891
3	9.143636364
Grand Total	**6.578997859**

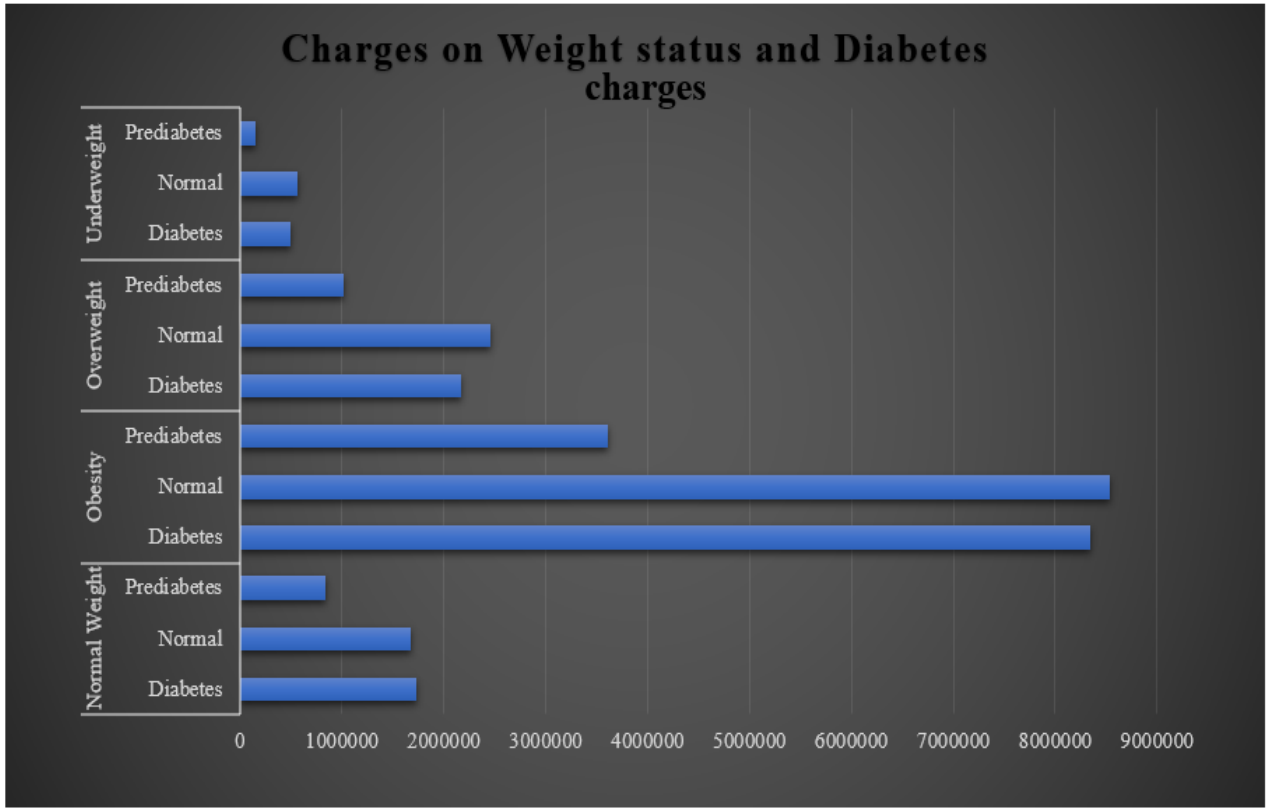


ANALYSIS USING COLUMN/BAR CHART

How Do Healthcare Charges Vary Based On Different Weight Statuses And Diabetes Statuses?

How do healthcare charges vary based on different weight statuses and diabetes statuses?

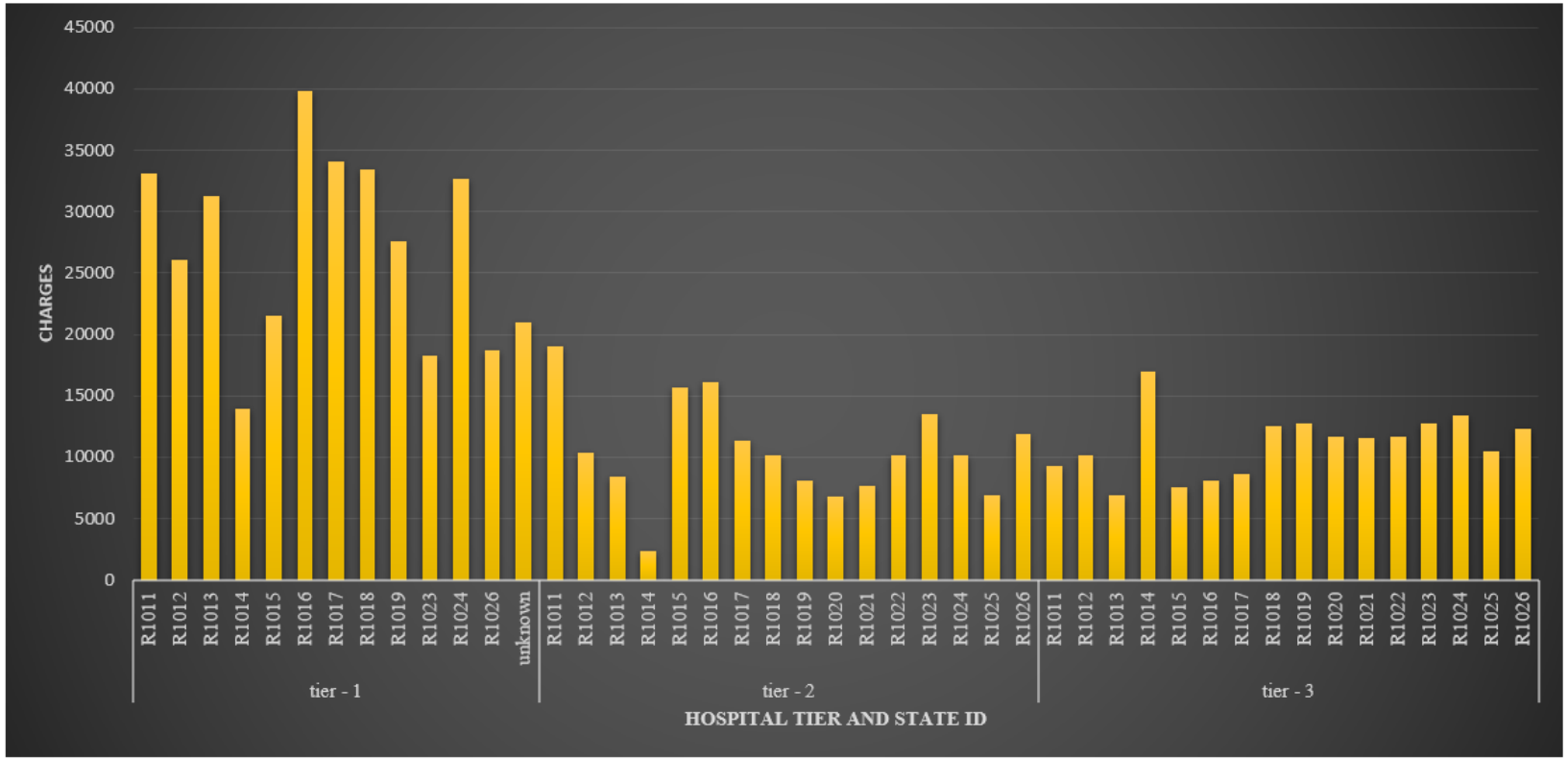
Row Labels	Sum of charges
Normal Weight	**4242121.96**
Diabetes	1726354.48
Normal	1674180.51
Prediabetes	841586.97
Obesity	**20499520.17**
Diabetes	8348186.91
Normal	8539194.32
Prediabetes	3612138.94
Overweight	**5636436.6**
Diabetes	2166322.24
Normal	2459264.37
Prediabetes	1010849.99
Underweight	**1214279.88**
Diabetes	490046.85
Normal	566702.46
Prediabetes	157530.57
Grand Total	**31592358.61**



Can You Compare The Average Charges For Each Hospital Tier Within Different States?

Can you compare the average charges for each hospital tier within different states?

Row Labels	Average of charges
tier - 1	**30129.19859**
R1011	33081.37379
R1012	26111.45794
R1013	31328.10224
R1014	
R1015	21523.52
R1016	39868.61625
R1017	34070.59571
R1018	33475.82
R1019	27621.61
R1023	18261.7575
R1024	32732.18714
R1026	18709.798
unknown	20996.53
tier - 2	**11873.61975**
R1011	18997.28069
R1012	10334.27932
R1013	8459.977674
R1014	2395.17
R1015	15675.54333
R1016	16075.96333
R1017	11365.62188
R1018	10139.55333
R1019	8116.72
R1020	6760.543333

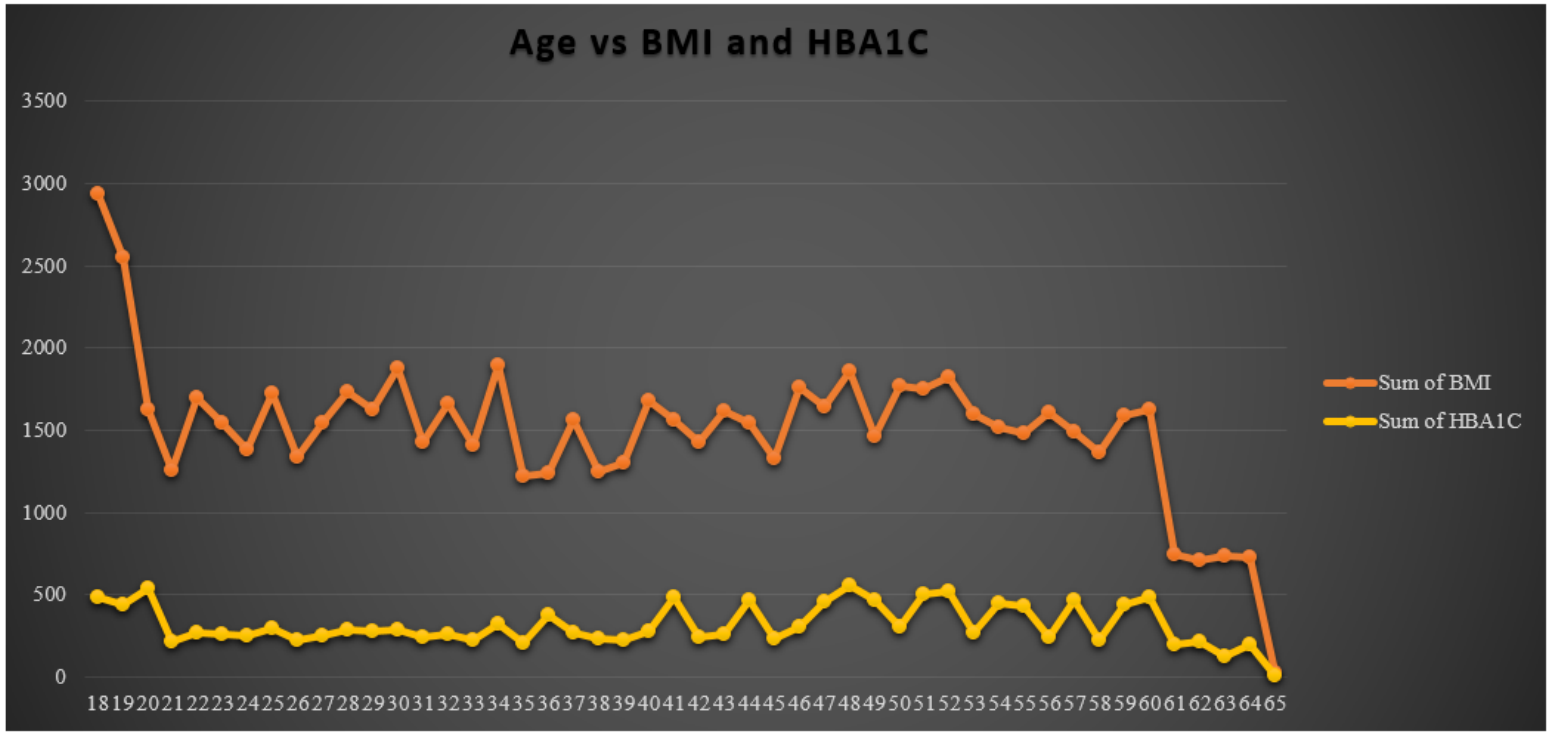


ANALYSIS USING LINE/SCATTER PLOT

Is There Any Correlation Between Age And Both BMI And Hba1c In The Dataset?

Is there any correlation between age and both BMI and HbA1C in the dataset?

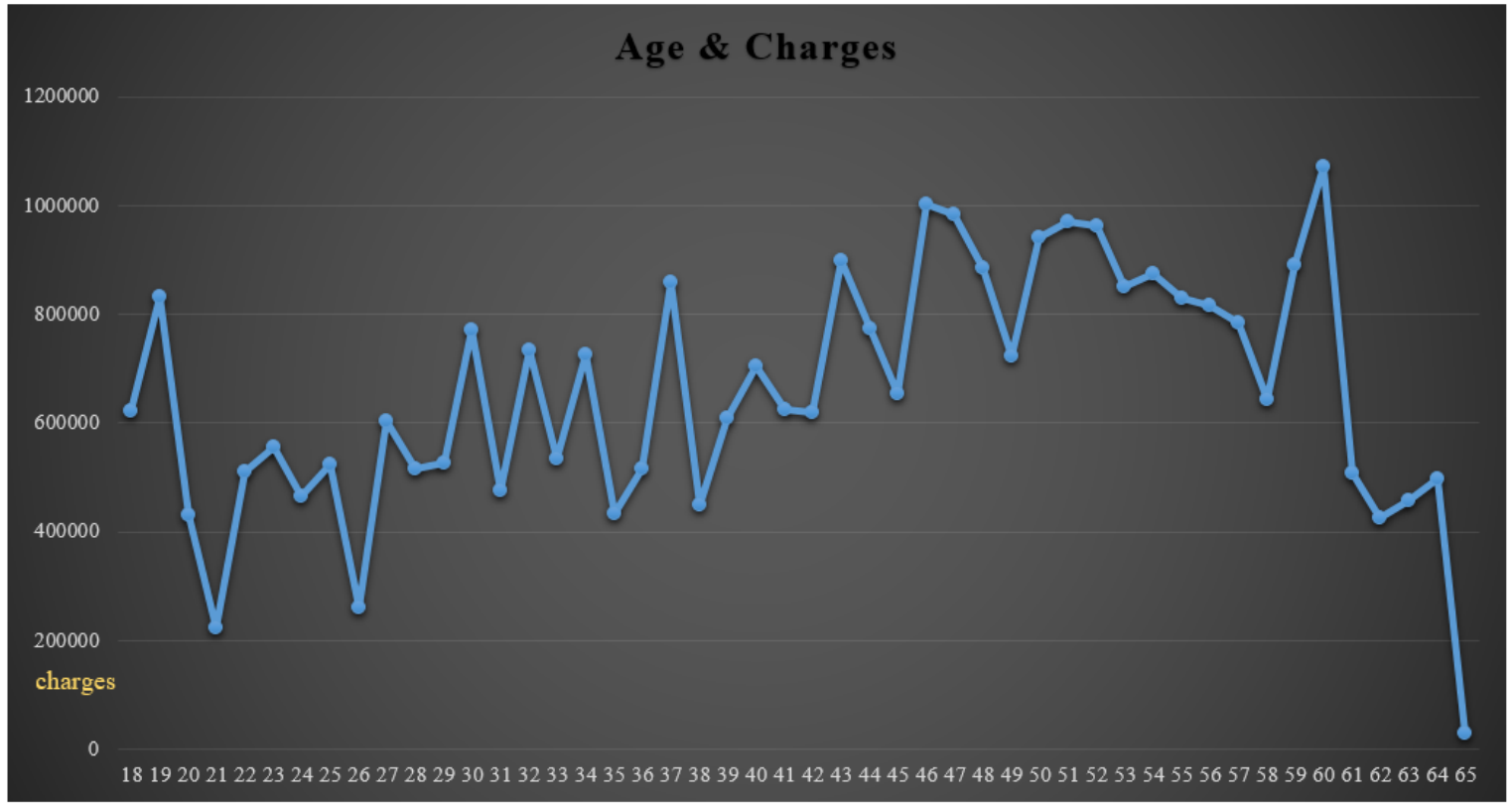
Values		
Row Labels	Sum of BMI	Sum of HBA1
18	2938.475	483.25
19	2550.26	445.32
20	1625.06	540.82
21	1258.77	220.05
22	1694.255	274.39
23	1541.465	259.46
24	1388.495	257.05
25	1729.62	299.76
26	1339.42	224.53
27	1546.13	251.98
28	1737.64	292.36
29	1630.455	275.83
30	1876.995	290.28
31	1430.925	245.32
32	1662.32	258.99
33	1415.36	226.59
34	1893.095	326.68
35	1218.81	205.81
36	1238.23	380.4
37	1566.84	273.77
38	1246.545	231.34
39	1301.575	227.54
40	1684.195	278.22
41	1562.275	488.3
42	1429.35	244.48



Explore The Relationship Between Age And Healthcare Charges.

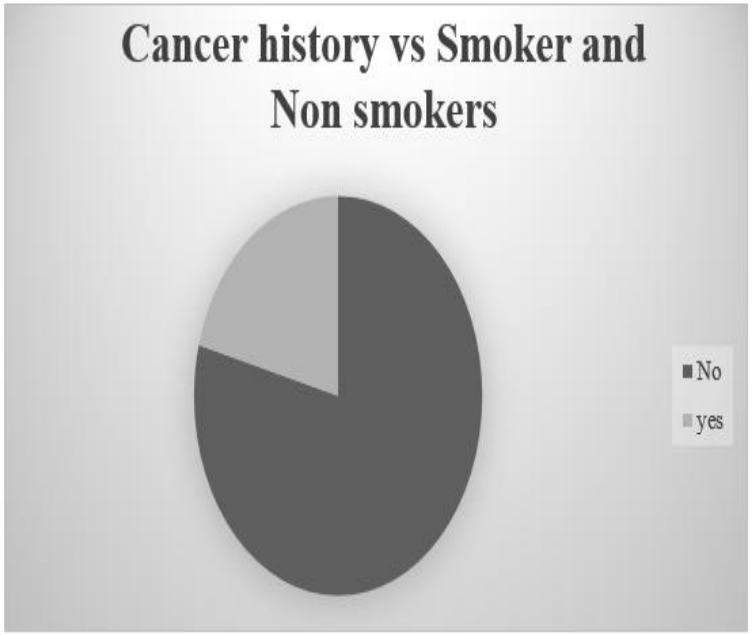
Explore the relationship between age and healthcare charges.

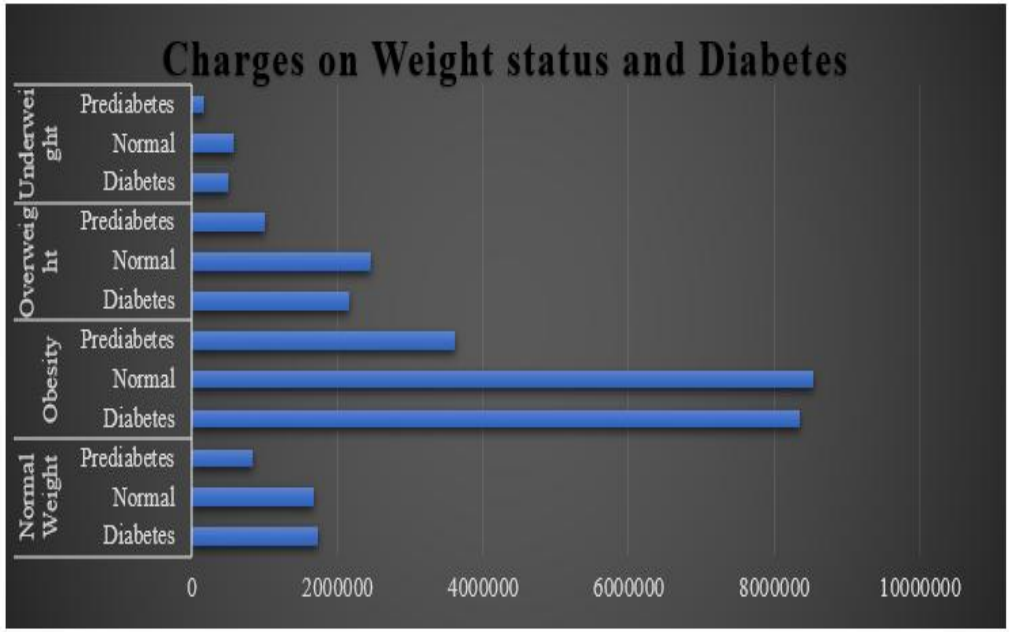
Row Labels	Sum of charges
18	621463.29
19	832238.07
20	429864
21	224224.76
22	509924.09
23	554646.68
24	466298.64
25	523538.56
26	260505.82
27	604158.33
28	516309.67
29	525484.4
30	772119.45
31	475931.78
32	734904.55
33	535098.75
34	725081.81
35	432690.46
36	516219.95
37	858198.32
38	449812.21
39	607623.11
40	705133.37
41	625619.78

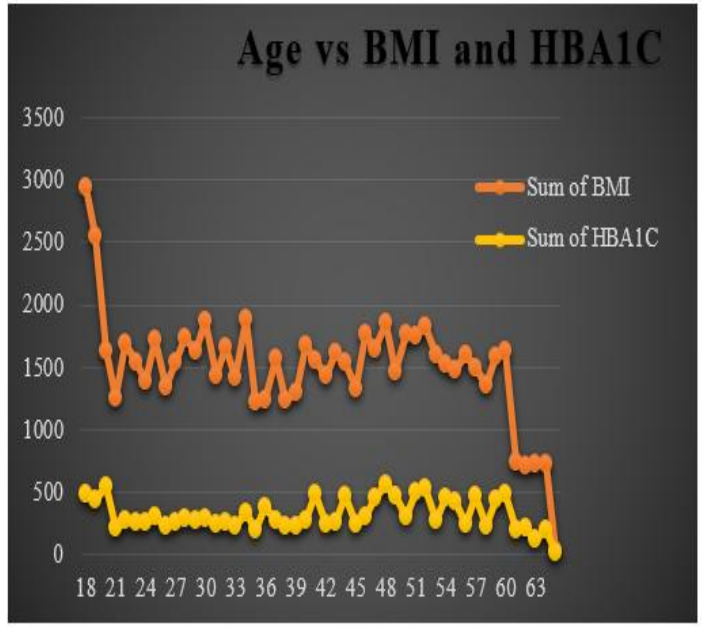


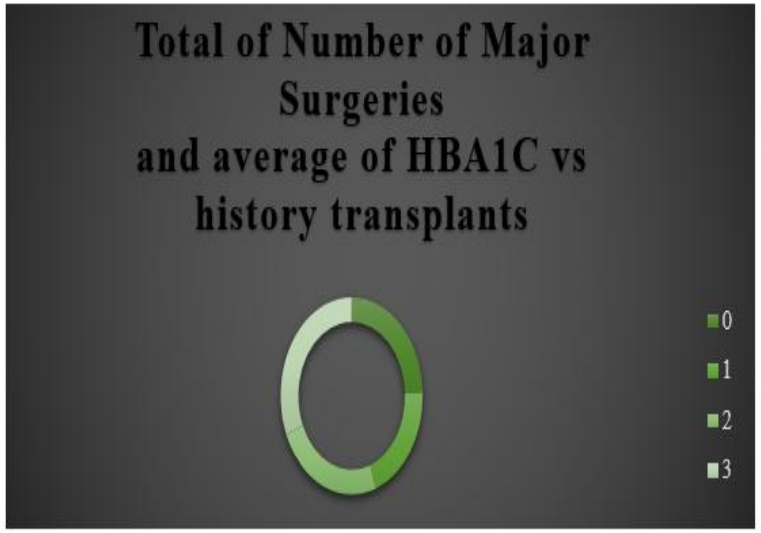
DASHBOARD

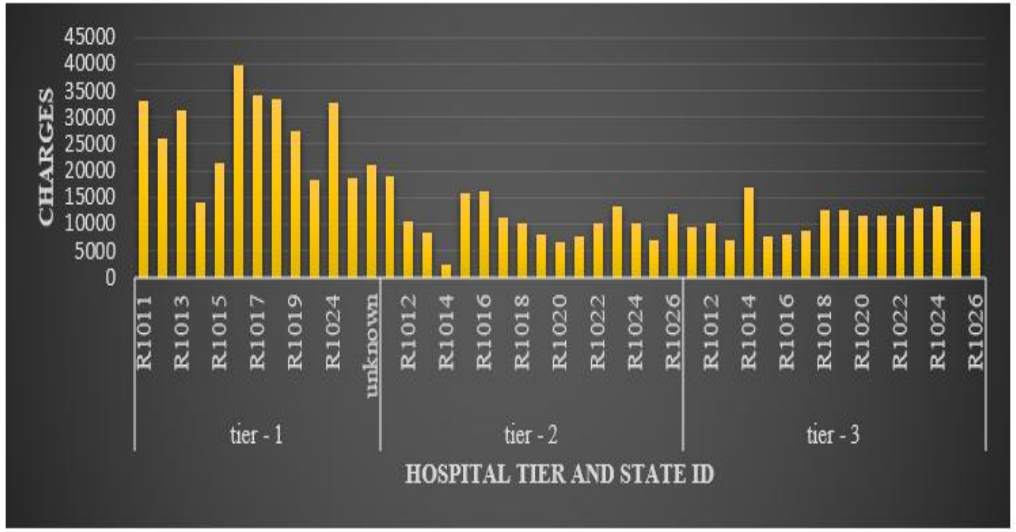
Health care Dashboard

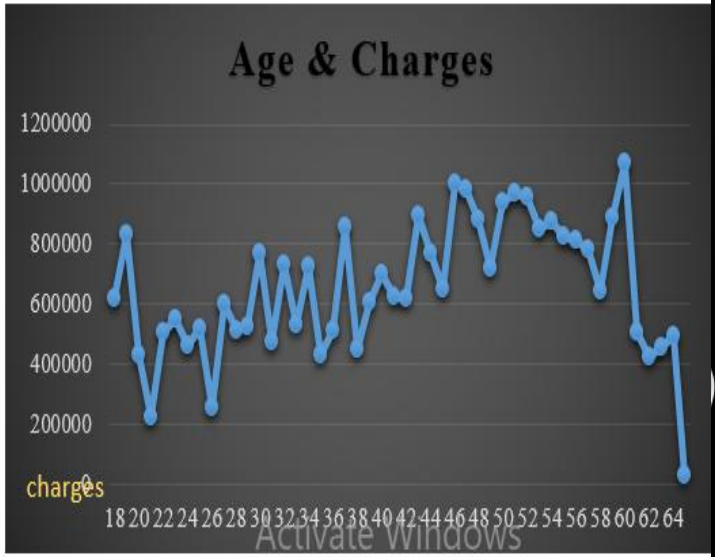












Thank You
For Your Attention