

```
In [1]:
```

```
import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt
from sklearn import preprocessing,svm
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
from sklearn.linear_model import Ridge,RidgeCV,Lasso
from sklearn.preprocessing import StandardScaler
```

```
In [2]: df=pd.read_csv(r"C:\Users\chait\Downloads\insurance.csv")
df
```

Out[2]:

	age	sex	bmi	children	smoker	region	charges
0	19	female	27.900	0	yes	southwest	16884.92400
1	18	male	33.770	1	no	southeast	1725.55230
2	28	male	33.000	3	no	southeast	4449.46200
3	33	male	22.705	0	no	northwest	21984.47061
4	32	male	28.880	0	no	northwest	3866.85520
...	...	...	...	...	...	...	...
1333	50	male	30.970	3	no	northwest	10600.54830
1334	18	female	31.920	0	no	northeast	2205.98080
1335	18	female	36.850	0	no	southeast	1629.83350
1336	21	female	25.800	0	no	southwest	2007.94500
1337	61	female	29.070	0	yes	northwest	29141.36030

1338 rows × 7 columns

```
In [3]: df.head()
```

```
Out[3]:    age   sex   bmi  children  smoker    region  charges
0    19  female  27.900       0     yes  southwest  16884.92400
1    18    male  33.770       1      no  southeast  1725.55230
2    28    male  33.000       3      no  southeast  4449.46200
3    33    male  22.705       0      no  northwest  21984.47061
4    32    male  28.880       0      no  northwest  3866.85520
```

```
In [4]: df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 1338 entries, 0 to 1337
Data columns (total 7 columns):
 #   Column    Non-Null Count  Dtype  
--- 
 0   age        1338 non-null   int64  
 1   sex        1338 non-null   object  
 2   bmi        1338 non-null   float64
 3   children   1338 non-null   int64  
 4   smoker     1338 non-null   object  
 5   region     1338 non-null   object  
 6   charges    1338 non-null   float64
dtypes: float64(2), int64(2), object(3)
memory usage: 73.3+ KB
```

In [5]: df.describe()

Out[5]:

	age	bmi	children	charges
<b>count</b>	1338.000000	1338.000000	1338.000000	1338.000000
<b>mean</b>	39.207025	30.663397	1.094918	13270.422265
<b>std</b>	14.049960	6.098187	1.205493	12110.011237
<b>min</b>	18.000000	15.960000	0.000000	1121.873900
<b>25%</b>	27.000000	26.296250	0.000000	4740.287150
<b>50%</b>	39.000000	30.400000	1.000000	9382.033000
<b>75%</b>	51.000000	34.693750	2.000000	16639.912515
<b>max</b>	64.000000	53.130000	5.000000	63770.428010

In [6]: df.tail()

Out[6]:

	age	sex	bmi	children	smoker	region	charges
1333	50	male	30.97	3	no	northwest	10600.5483
1334	18	female	31.92	0	no	northeast	2205.9808
1335	18	female	36.85	0	no	southeast	1629.8335
1336	21	female	25.80	0	no	southwest	2007.9450
1337	61	female	29.07	0	yes	northwest	29141.3603

In [7]: df.shape

Out[7]: (1338, 7)

In [8]: df.size

Out[8]: 9366

```
In [9]: df.columns
```

```
Out[9]: Index(['age', 'sex', 'bmi', 'children', 'smoker', 'region', 'charges'], dtype='object')
```

```
In [10]: convert={"smoker":{"yes":1,"no":0}}
df=df.replace(convert)
df
```

```
Out[10]:
```

	age	sex	bmi	children	smoker	region	charges
0	19	female	27.900	0	1	southwest	16884.92400
1	18	male	33.770	1	0	southeast	1725.55230
2	28	male	33.000	3	0	southeast	4449.46200
3	33	male	22.705	0	0	northwest	21984.47061
4	32	male	28.880	0	0	northwest	3866.85520
...	...	...	...	...	...	...	...
1333	50	male	30.970	3	0	northwest	10600.54830
1334	18	female	31.920	0	0	northeast	2205.98080
1335	18	female	36.850	0	0	southeast	1629.83350
1336	21	female	25.800	0	0	southwest	2007.94500
1337	61	female	29.070	0	1	northwest	29141.36030

1338 rows × 7 columns

```
In [11]: convert={"sex":{"female":1,"male":0}}
df=df.replace(convert)
df
```

```
Out[11]:
```

	age	sex	bmi	children	smoker	region	charges
0	19	1	27.900	0	1	southwest	16884.92400
1	18	0	33.770	1	0	southeast	1725.55230
2	28	0	33.000	3	0	southeast	4449.46200
3	33	0	22.705	0	0	northwest	21984.47061
4	32	0	28.880	0	0	northwest	3866.85520
...	...	...	...	...	...	...	...
1333	50	0	30.970	3	0	northwest	10600.54830
1334	18	1	31.920	0	0	northeast	2205.98080
1335	18	1	36.850	0	0	southeast	1629.83350
1336	21	1	25.800	0	0	southwest	2007.94500
1337	61	1	29.070	0	1	northwest	29141.36030

1338 rows × 7 columns

```
In [12]: convert={"region":{"southeast":0,"southwest":1,"northeast":2,"northwest":3}}  
df=df.replace(convert)  
df
```

Out[12]:

	age	sex	bmi	children	smoker	region	charges
0	19	1	27.900	0	1	1	16884.92400
1	18	0	33.770	1	0	0	1725.55230
2	28	0	33.000	3	0	0	4449.46200
3	33	0	22.705	0	0	3	21984.47061
4	32	0	28.880	0	0	3	3866.85520
...	...	...	...	...	...	...	...
1333	50	0	30.970	3	0	3	10600.54830
1334	18	1	31.920	0	0	2	2205.98080
1335	18	1	36.850	0	0	0	1629.83350
1336	21	1	25.800	0	0	1	2007.94500
1337	61	1	29.070	0	1	3	29141.36030

1338 rows × 7 columns

```
In [13]: convert={"sex":{"female":1,"male":0}}  
df=df.replace(convert)  
df
```

Out[13]:

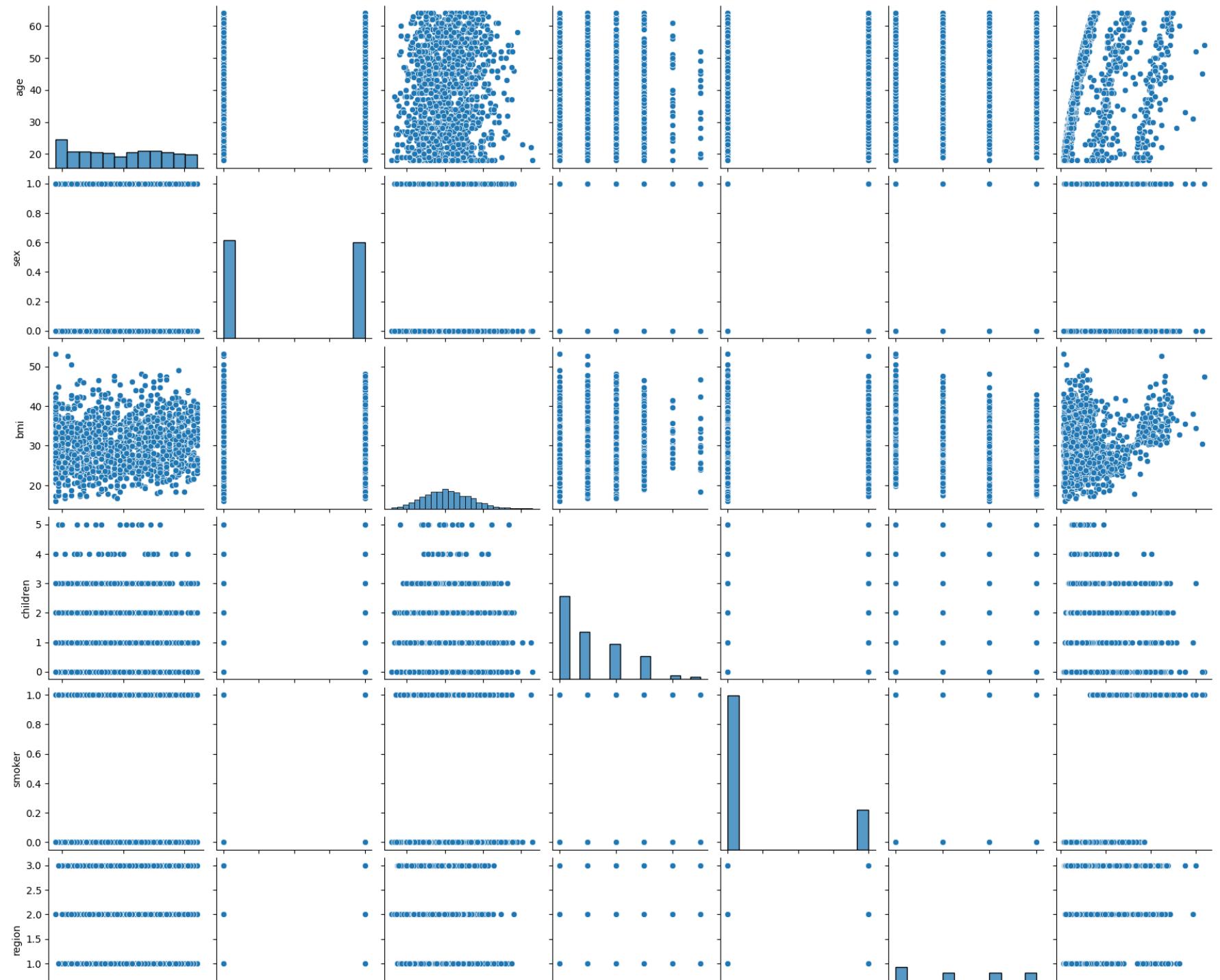
	age	sex	bmi	children	smoker	region	charges
0	19	1	27.900	0	1	1	16884.92400
1	18	0	33.770	1	0	0	1725.55230
2	28	0	33.000	3	0	0	4449.46200
3	33	0	22.705	0	0	3	21984.47061
4	32	0	28.880	0	0	3	3866.85520
...	...	...	...	...	...	...	...
1333	50	0	30.970	3	0	3	10600.54830
1334	18	1	31.920	0	0	2	2205.98080
1335	18	1	36.850	0	0	0	1629.83350
1336	21	1	25.800	0	0	1	2007.94500
1337	61	1	29.070	0	1	3	29141.36030

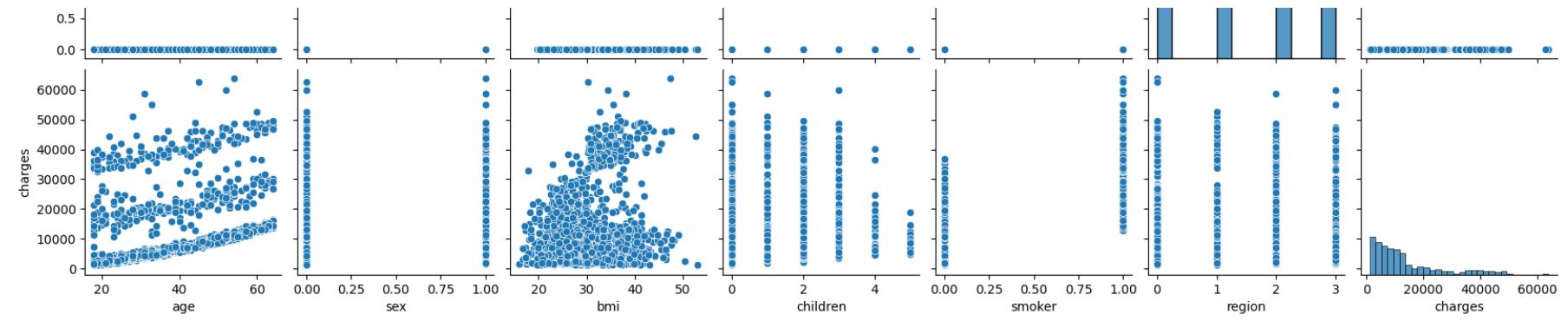
1338 rows × 7 columns

```
In [14]: sns.pairplot(df)
```

```
Out[14]: <seaborn.axisgrid.PairGrid at 0x28ea0677d60>
```

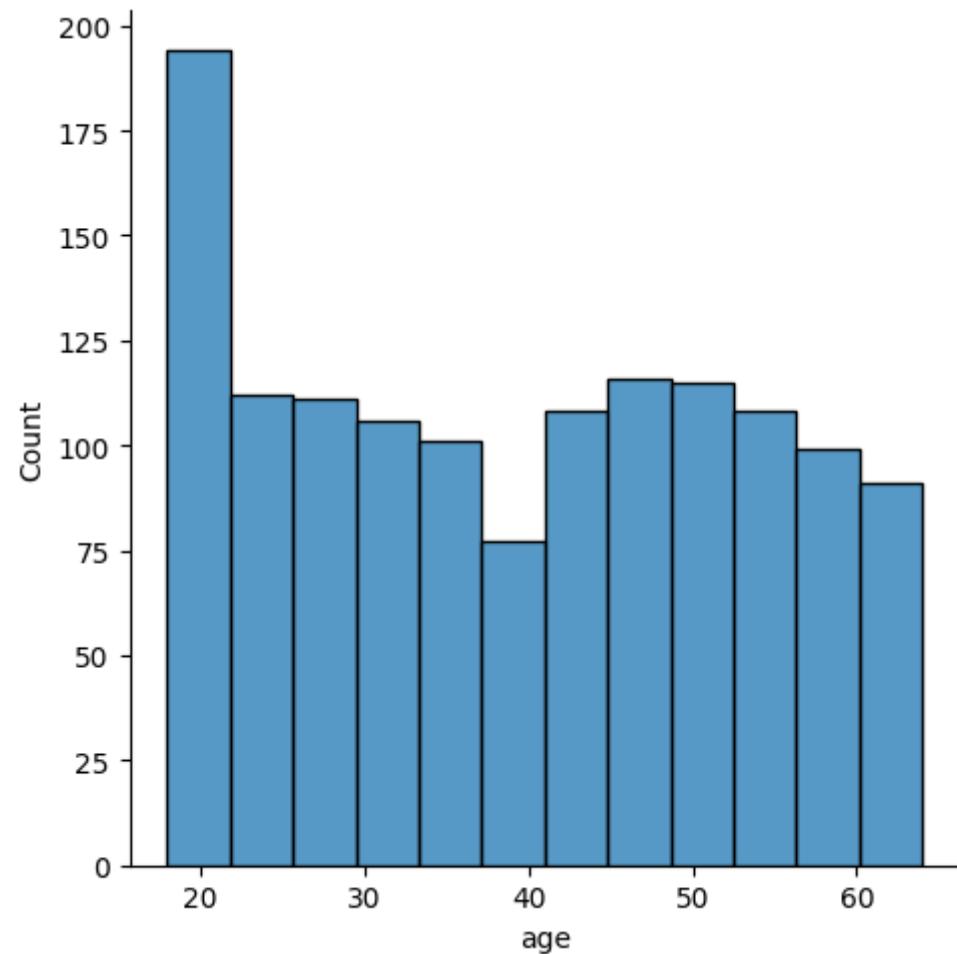






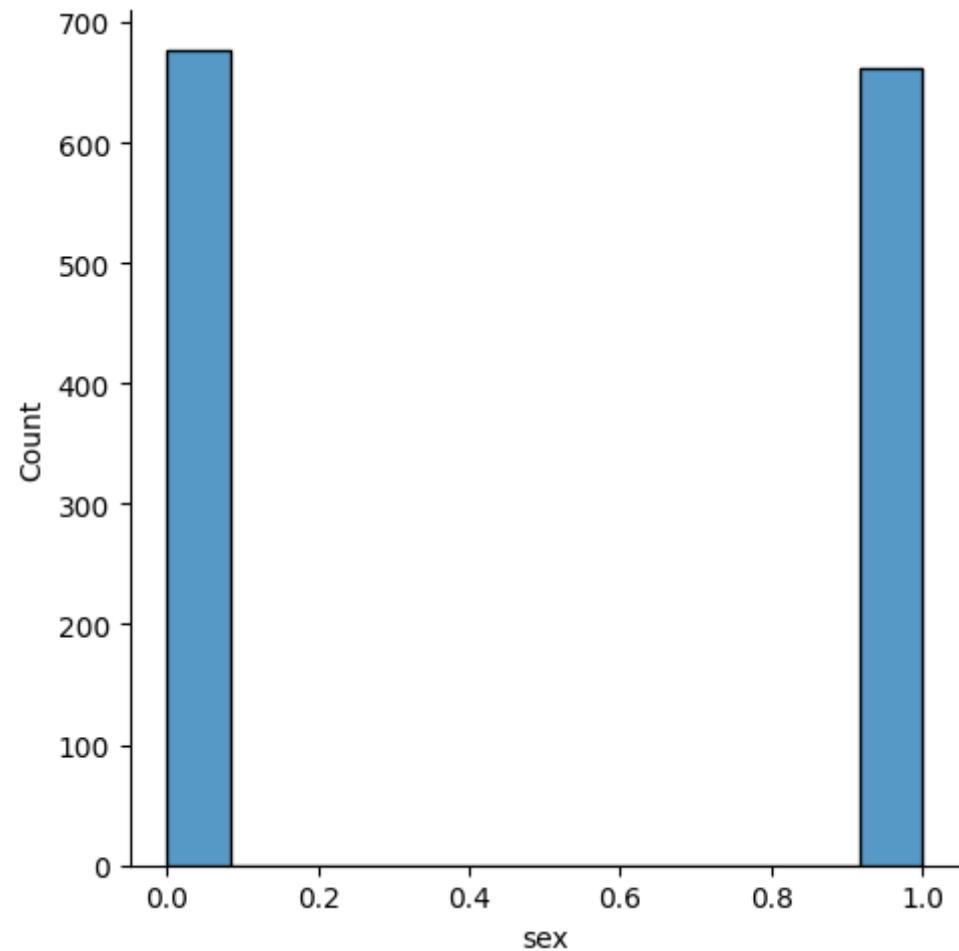
```
In [15]: sns.displot(df[ 'age' ])
```

```
Out[15]: <seaborn.axisgrid.FacetGrid at 0x28ea59be530>
```



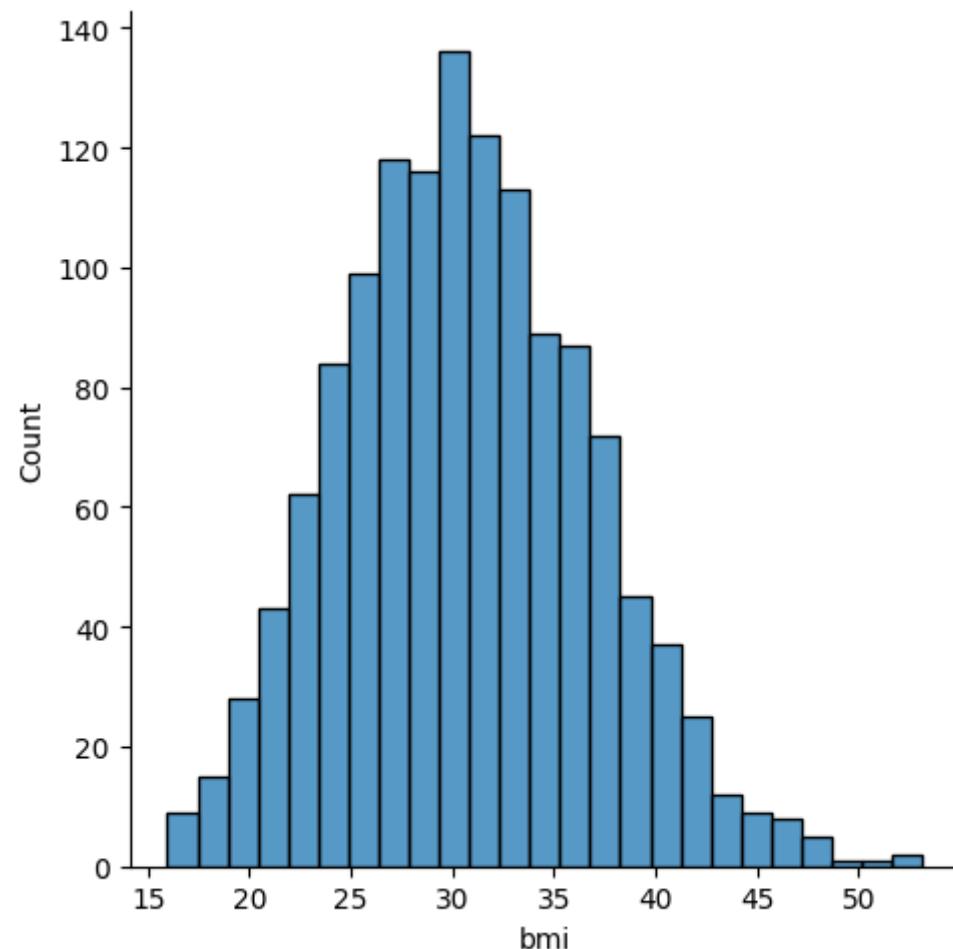
```
In [16]: sns.displot(df[ 'sex' ])
```

```
Out[16]: <seaborn.axisgrid.FacetGrid at 0x28ea5a47d00>
```



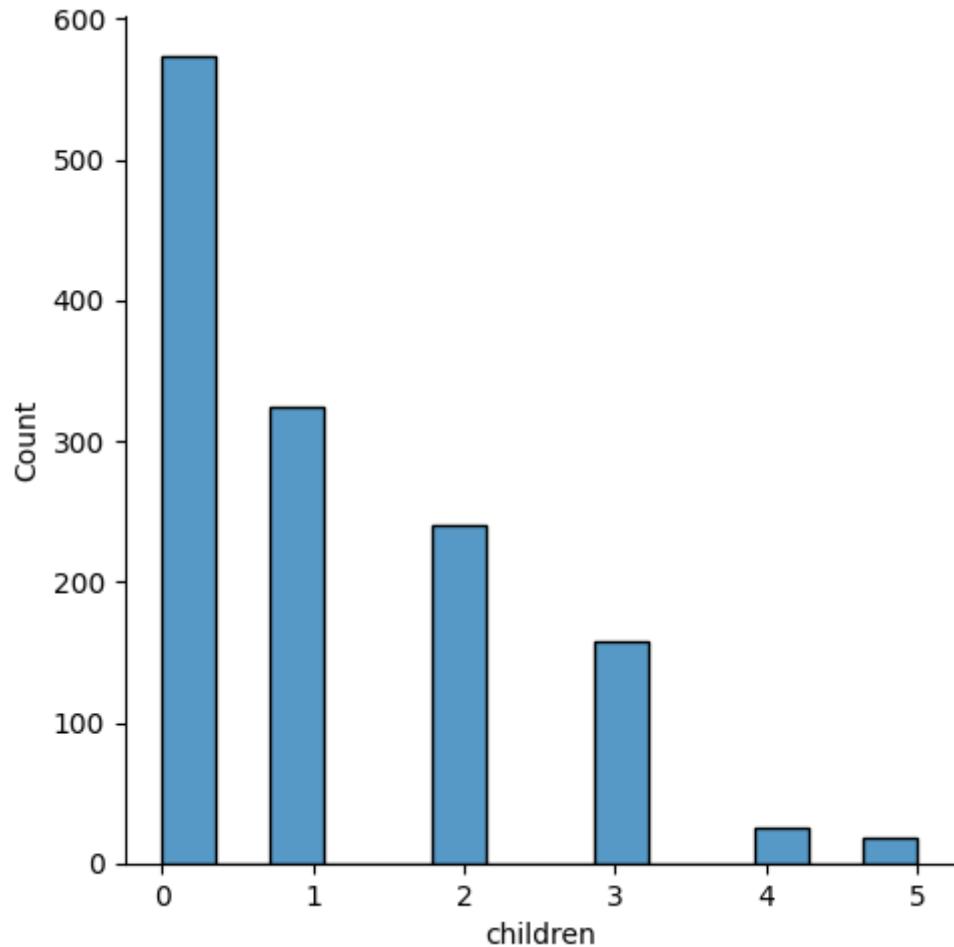
```
In [17]: sns.displot(df[ 'bmi' ])
```

```
Out[17]: <seaborn.axisgrid.FacetGrid at 0x28ea666d030>
```



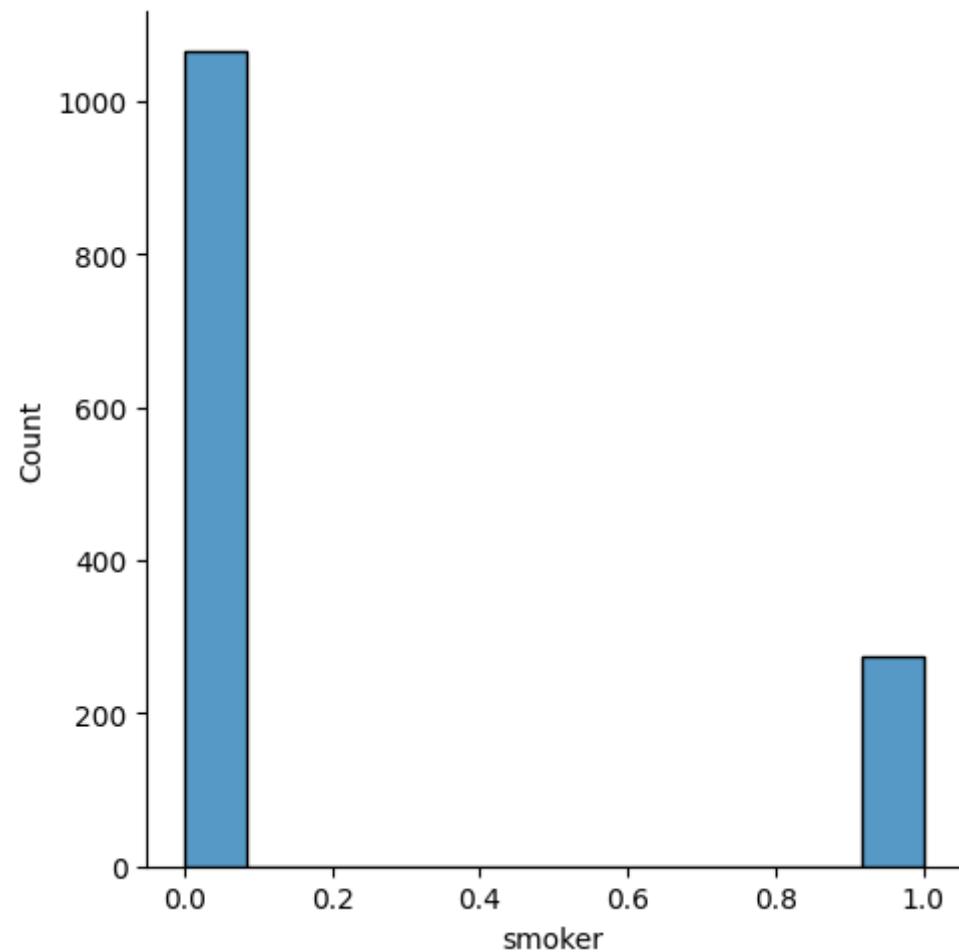
```
In [18]: sns.displot(df['children'])
```

```
Out[18]: <seaborn.axisgrid.FacetGrid at 0x28ea66f5ff0>
```



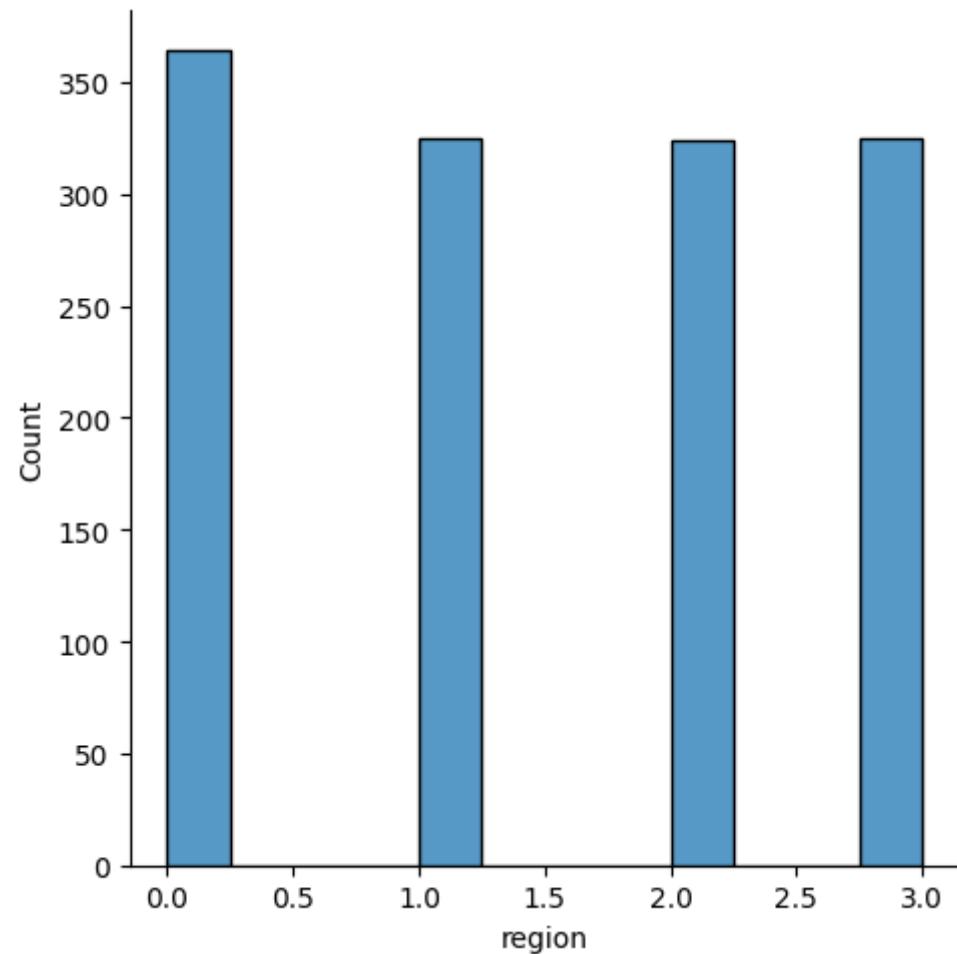
```
In [19]: sns.displot(df[ 'smoker' ])
```

```
Out[19]: <seaborn.axisgrid.FacetGrid at 0x28ea5a6b8e0>
```



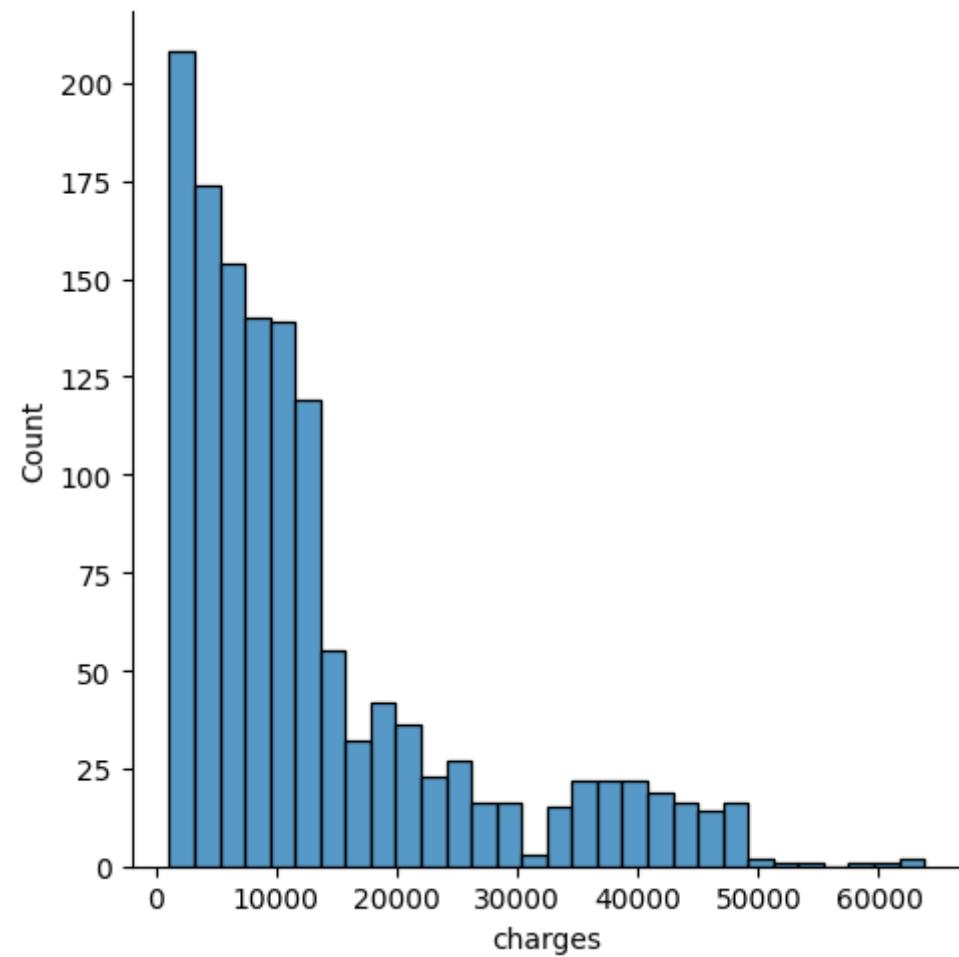
```
In [20]: sns.displot(df[ 'region' ])
```

```
Out[20]: <seaborn.axisgrid.FacetGrid at 0x28ea66486d0>
```



```
In [21]: sns.distplot(df[ 'charges' ])
```

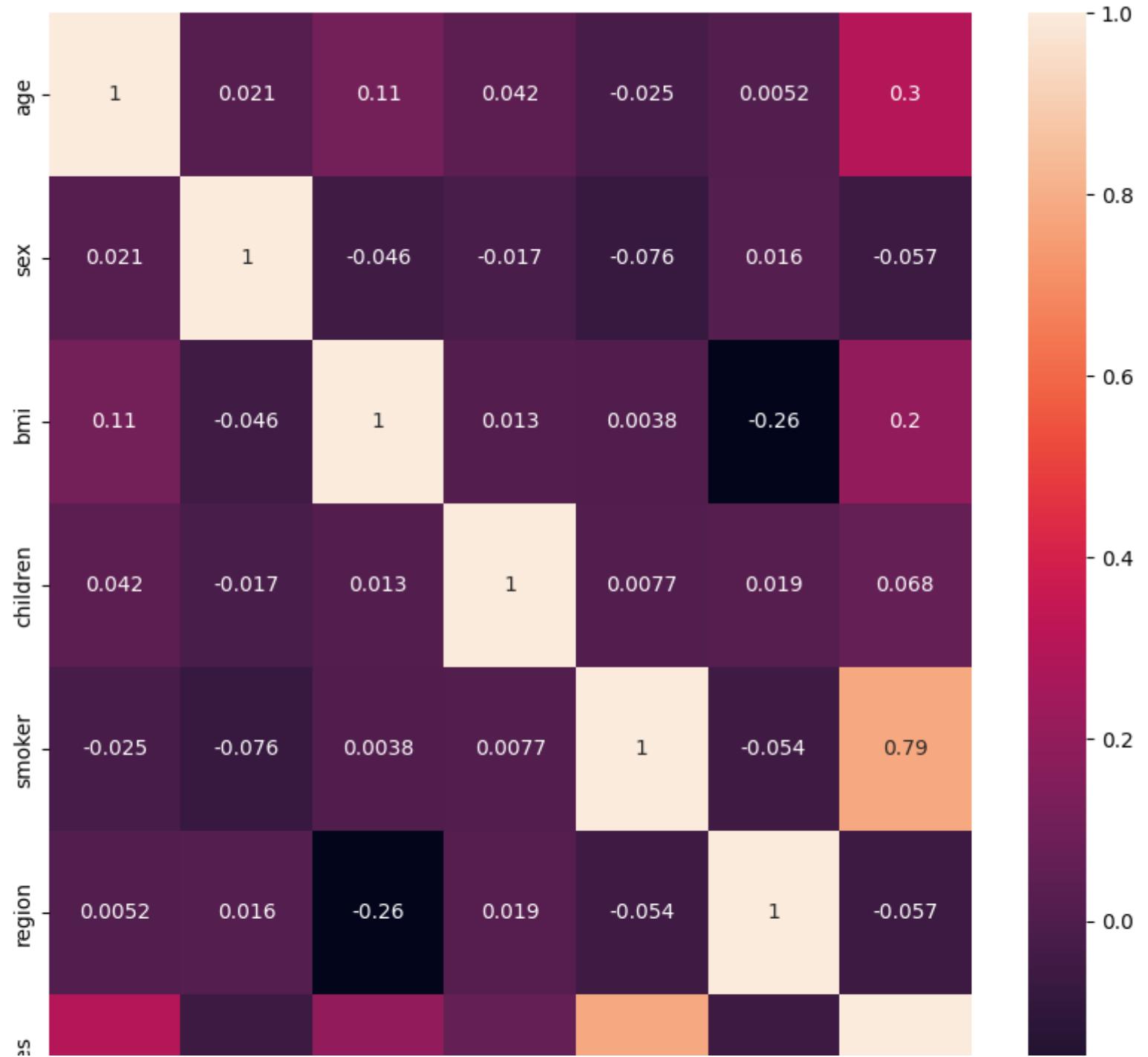
```
Out[21]: <seaborn.axisgrid.FacetGrid at 0x28ea68b29e0>
```

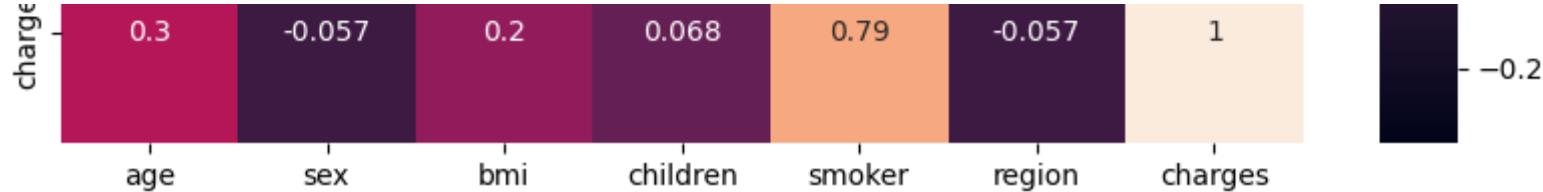


```
In [22]: plt.figure(figsize=(10,10))
sns.heatmap(df.corr(), annot=True)
```

```
Out[22]: <Axes: >
```







```
In [23]: features=df.columns[0:2]
target=df.columns[-1]
#x and y values
x=df[features].values
y=df[target].values
#plot
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.3,random_state=17)
print("The dimensions of x_train is {}".format(x_train.shape))
print("The dimensions of x_train is {}".format(x_test.shape))
#scale features
scaler=StandardScaler()
x_train=scaler.fit_transform(x_train)
x_test=scaler.transform(x_test)
```

The dimensions of x\_train is (936, 2)  
The dimensions of x\_train is (402, 2)

```
In [24]: #model
lr=LinearRegression()

#fit model
lr.fit(x_train,y_train)
#prediction=Lr.predict(x_test)
#actual
actual=y_test
train_score_lr=lr.score(x_train,y_train)
test_score_lr=lr.score(x_test,y_test)
print("\nLinearRegression model:\n")
print("The train score for lr model is {}".format(train_score_lr))
print("The test score for lr model is {}".format(test_score_lr))
```

LinearRegression model:

```
The train score for lr model is 0.08144731818197626
The test score for lr model is 0.1022033122179885
```

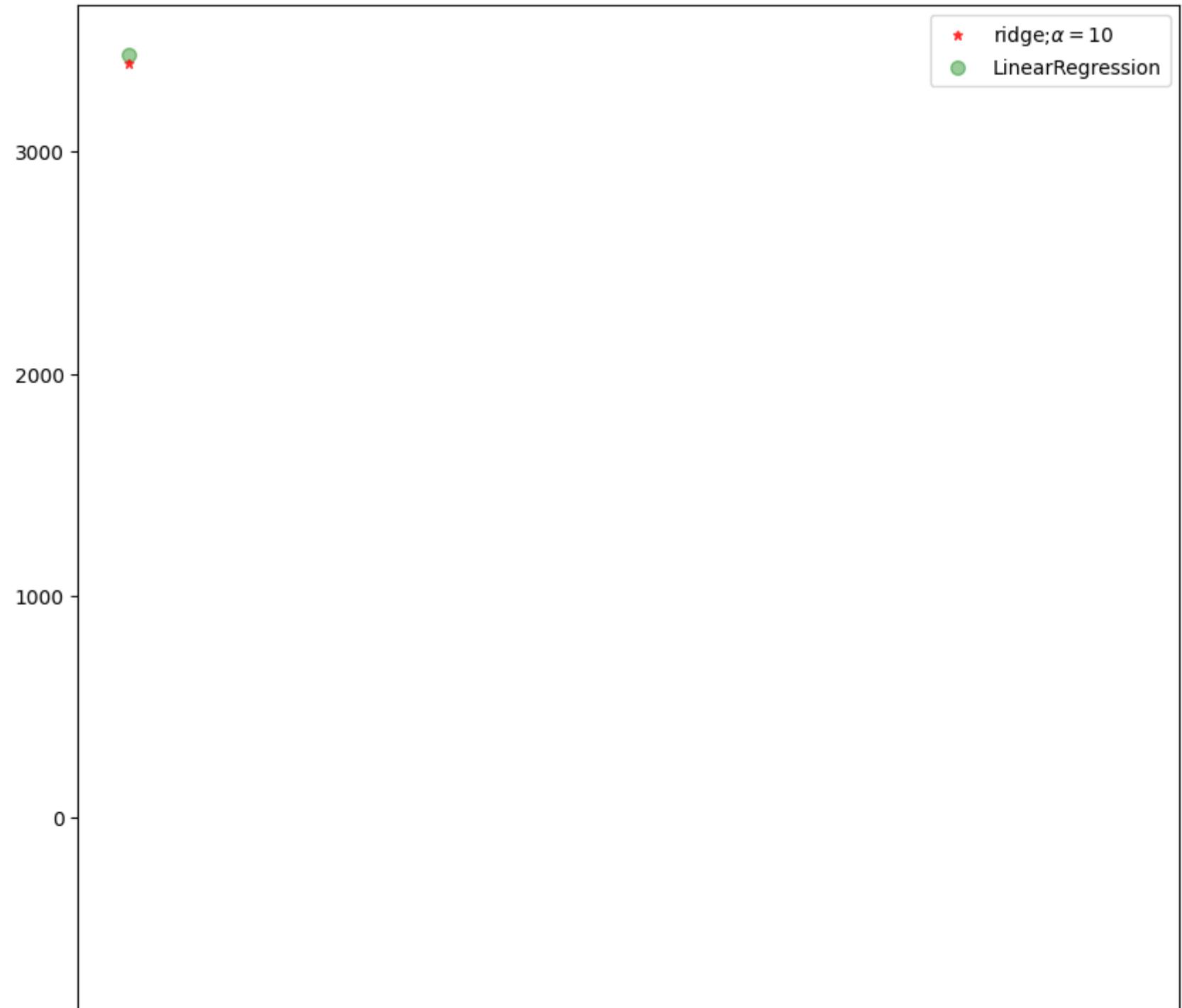
```
In [25]: ##Ridge regression model
ridgeReg=Ridge(alpha=10)
ridgeReg.fit(x_train,y_train)
#train and test score for ridge regression
train_score_ridge=ridgeReg.score(x_train,y_train)
test_score_ridge=ridgeReg.score(x_test,y_test)
print("\nRidge Model")
print("The train score for ridge model is {}".format(train_score_ridge))
print("The test score for ridge model is {}".format(test_score_ridge))
```

Ridge Model

```
The train score for ridge model is 0.08143796463046804
The test score for ridge model is 0.10202509697425621
```

```
In [26]: plt.figure(figsize=(10,10))
plt.plot(features,ridgeReg.coef_,alpha=0.7,linestyle='none',marker='*',markersize=5,color='red',
         label=r'ridge; $\alpha=10$',zorder=7)
plt.plot(features,lr.coef_,alpha=0.4,linestyle='none',marker='o',markersize=7,color='green',label='LinearRegression')
plt.xticks(rotation=90)
plt.legend()
plt.show()
```







```
In [27]: #Lasso regression model
```

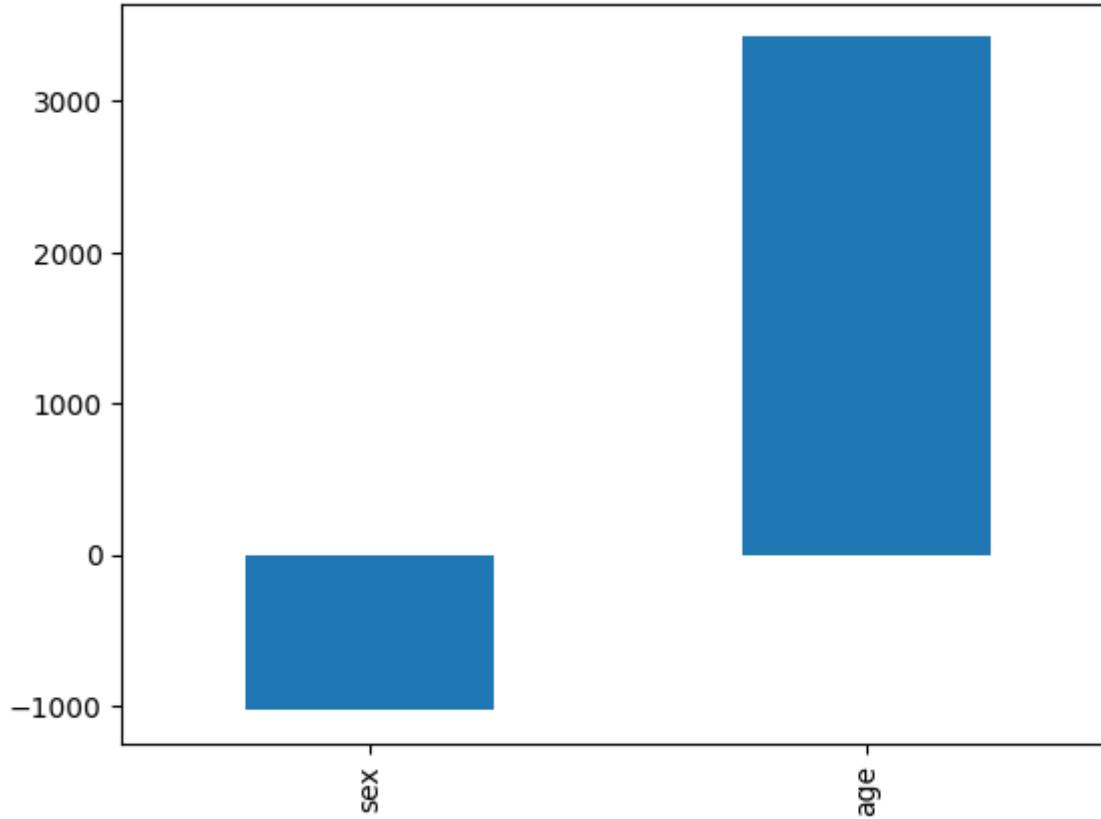
```
print("\nLasso Model: \n")
lasso = Lasso(alpha = 10)
lasso.fit(x_train,y_train)
train_score_ls = lasso.score(x_train,y_train)
test_score_ls = lasso.score(x_test,y_test)
print("The train score for ls model is {}".format(train_score_ls))
print("The test score for ls model is {}".format(test_score_ls))
```

Lasso Model:

```
The train score for ls model is 0.08144600503720845
The test score for ls model is 0.10226046691368151
```

```
In [28]: pd.Series(lasso.coef_,features).sort_values(ascending = True).plot(kind = "bar")
```

```
Out[28]: <Axes: >
```



```
In [29]: from sklearn.linear_model import LassoCV
lasso_cv=LassoCV(alphas=[0.0001,0.001,0.01,1,10]).fit(x_train,y_train)
print(lasso_cv.score(x_train,y_train))
print(lasso_cv.score(x_test,y_test))
```

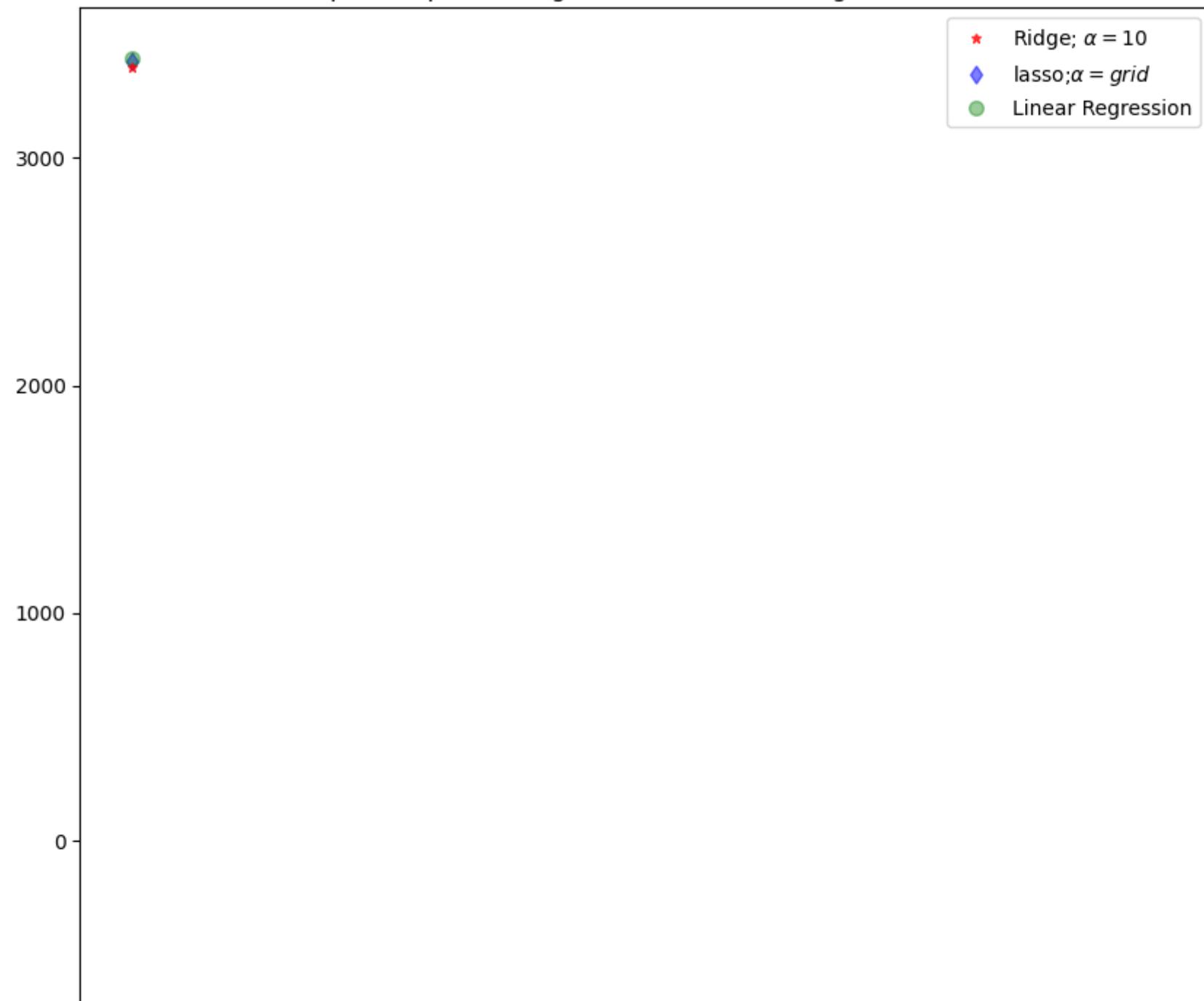
```
0.08144600503720845
0.10226046691368151
```

In [30]:

```
#plot size
plt.figure(figsize = (10, 10))
#add plot for ridge regression
plt.plot(features,ridgeReg.coef_,alpha=0.7,linestyle='none',marker='*',markersize=5,color='red',label=r'Ridge; $\alpha$=0.7')
#add plot for lasso regression
plt.plot(lasso_cv.coef_,alpha=0.5,linestyle='none',marker='d',markersize=6,color='blue',label=r'Lasso; $\alpha$=0.5')
#add plot for linear model
plt.plot(features,lr.coef_,alpha=0.4,linestyle='none',marker='o',markersize=7,color='green',label='Linear Regression')
#rotate axis
plt.xticks(rotation = 90)
plt.legend()
plt.title("Comparsion plot of Ridge,Lasso and Linear Regression Model")
plt.show()
```



Comparsion plot of Ridge,Lasso and Linear Regression Model





```
In [31]: # using the Linear CV model
from sklearn.linear_model import RidgeCV

#using the Linear CV model
from sklearn.linear_model import RidgeCV
#Ridge Cross validation
ridge_cv = RidgeCV(alphas = [0.0001,0.001,0.01,0.1,1,10]).fit(x_train,y_train)
#score
print("The train score for ridge model is {}".format(ridge_cv.score(x_train, y_train)))
print("The train score for ridge model is {}".format(ridge_cv.score(x_test,y_test)))
```

The train score for ridge model is 0.08143796463046815

The train score for ridge model is 0.10202509697425821

## ELASTICNET

```
In [32]: from sklearn.linear_model import ElasticNet
regr=ElasticNet()
regr.fit(x,y)
print(regr.coef_)
print(regr.intercept_)
```

```
[ 257.44760657 -511.96287073]
3429.9704170955247
```

```
In [33]: y_pred_elastic = regr.predict(x_train)
```

```
In [34]: mean_squared_error=np.mean((y_pred_elastic-y_train)**2)
print("Mean Squared Error on test set",mean_squared_error)
```

Mean Squared Error on test set 261717586.63841307

## LOGISTIC REGRESSION

```
In [35]: from sklearn.linear_model import LogisticRegression
from sklearn.preprocessing import StandardScaler
```

```
In [36]: df=pd.read_csv(r"C:\Users\chait\Downloads\insurance.csv")
df
```

Out[36]:

	age	sex	bmi	children	smoker	region	charges
0	19	female	27.900	0	yes	southwest	16884.92400
1	18	male	33.770	1	no	southeast	1725.55230
2	28	male	33.000	3	no	southeast	4449.46200
3	33	male	22.705	0	no	northwest	21984.47061
4	32	male	28.880	0	no	northwest	3866.85520
...	...	...	...	...	...	...	...
1333	50	male	30.970	3	no	northwest	10600.54830
1334	18	female	31.920	0	no	northeast	2205.98080
1335	18	female	36.850	0	no	southeast	1629.83350
1336	21	female	25.800	0	no	southwest	2007.94500
1337	61	female	29.070	0	yes	northwest	29141.36030

1338 rows × 7 columns

```
In [37]: pd.set_option('display.max_rows',10000000000)
pd.set_option('display.max_columns',10000000000)
pd.set_option('display.width',95)
```

```
In [38]: print('This DataFrame has %d Rows and %d Columns'%(df.shape))
```

This DataFrame has 1338 Rows and 7 Columns

```
In [39]: convert={"smoker":{"yes":1,"no":0}}
df=df.replace(convert)
df
```

Out[39]:

	age	sex	bmi	children	smoker	region	charges
0	19	female	27.900	0	1	southwest	16884.924000
1	18	male	33.770	1	0	southeast	1725.552300
2	28	male	33.000	3	0	southeast	4449.462000
3	33	male	22.705	0	0	northwest	21984.470610
4	32	male	28.880	0	0	northwest	3866.855200
5	31	female	25.740	0	0	southeast	3756.621600
6	46	female	33.440	1	0	southeast	8240.589600
7	37	female	27.740	3	0	northwest	7281.505600
8	37	male	29.830	2	0	northeast	6406.410700
9	60	female	25.840	0	0	northwest	28923.136920
10	25	male	26.220	0	0	northeast	2721.320800
11	62	female	26.290	0	1	southeast	27808.725100

```
In [40]: convert={"sex":{"female":1,"male":0}}
df=df.replace(convert)
df
```

```
Out[40]:
```

	age	sex	bmi	children	smoker	region	charges
0	19	1	27.900	0	1	southwest	16884.924000
1	18	0	33.770	1	0	southeast	1725.552300
2	28	0	33.000	3	0	southeast	4449.462000
3	33	0	22.705	0	0	northwest	21984.470610
4	32	0	28.880	0	0	northwest	3866.855200
5	31	1	25.740	0	0	southeast	3756.621600
6	46	1	33.440	1	0	southeast	8240.589600
7	37	1	27.740	3	0	northwest	7281.505600
8	37	0	29.830	2	0	northeast	6406.410700
9	60	1	25.840	0	0	northwest	28923.136920
10	25	0	26.220	0	0	northeast	2721.320800
11	62	1	26.290	0	1	southeast	27808.725100

```
In [41]: convert={"region":{"southeast":0,"southwest":1,"northeast":2,"northwest":3}}  
df=df.replace(convert)  
df
```

Out[41]:

	age	sex	bmi	children	smoker	region	charges
0	19	1	27.900	0	1	1	16884.924000
1	18	0	33.770	1	0	0	1725.552300
2	28	0	33.000	3	0	0	4449.462000
3	33	0	22.705	0	0	3	21984.470610
4	32	0	28.880	0	0	3	3866.855200
5	31	1	25.740	0	0	0	3756.621600
6	46	1	33.440	1	0	0	8240.589600
7	37	1	27.740	3	0	3	7281.505600
8	37	0	29.830	2	0	2	6406.410700
9	60	1	25.840	0	0	3	28923.136920
10	25	0	26.220	0	0	2	2721.320800
11	62	1	26.290	0	1	0	27808.725100
12	23	0	34.400	0	0	1	1826.843000
13	56	1	39.820	0	0	0	11090.717800
14	27	0	42.130	0	1	0	39611.757700
15	19	0	24.600	1	0	1	1837.237000
16	52	1	30.780	1	0	2	10797.336200
17	23	0	23.845	0	0	2	2395.171550
18	56	0	40.300	0	0	1	10602.385000
19	30	0	35.300	0	1	1	36837.467000
20	60	1	36.005	0	0	2	13228.846950
21	30	1	32.400	1	0	1	4149.736000
22	18	0	34.100	0	0	0	1137.011000
23	34	1	31.920	1	1	2	37701.876800
24	37	0	28.025	2	0	3	6203.901750
25	59	1	27.720	3	0	0	14001.133800

	age	sex	bmi	children	smoker	region	charges
<b>26</b>	63	1	23.085	0	0	2	14451.835150
<b>27</b>	55	1	32.775	2	0	3	12268.632250
<b>28</b>	23	0	17.385	1	0	3	2775.192150
<b>29</b>	31	0	36.300	2	1	1	38711.000000
<b>30</b>	22	0	35.600	0	1	1	35585.576000
<b>31</b>	18	1	26.315	0	0	2	2198.189850
<b>32</b>	19	1	28.600	5	0	1	4687.797000
<b>33</b>	63	0	28.310	0	0	3	13770.097900
<b>34</b>	28	0	36.400	1	1	1	51194.559140
<b>35</b>	19	0	20.425	0	0	3	1625.433750
<b>36</b>	62	1	32.965	3	0	3	15612.193350
<b>37</b>	26	0	20.800	0	0	1	2302.300000
<b>38</b>	35	0	36.670	1	1	2	39774.276300
<b>39</b>	60	0	39.900	0	1	1	48173.361000
<b>40</b>	24	1	26.600	0	0	2	3046.062000
<b>41</b>	31	1	36.630	2	0	0	4949.758700
<b>42</b>	41	0	21.780	1	0	0	6272.477200
<b>43</b>	37	1	30.800	2	0	0	6313.759000
<b>44</b>	38	0	37.050	1	0	2	6079.671500
<b>45</b>	55	0	37.300	0	0	1	20630.283510
<b>46</b>	18	1	38.665	2	0	2	3393.356350
<b>47</b>	28	1	34.770	0	0	3	3556.922300
<b>48</b>	60	1	24.530	0	0	0	12629.896700
<b>49</b>	36	0	35.200	1	1	0	38709.176000
<b>50</b>	18	1	35.625	0	0	2	2211.130750
<b>51</b>	21	1	33.630	2	0	3	3579.828700

	age	sex	bmi	children	smoker	region	charges
<b>52</b>	48	0	28.000	1	1	1	23568.272000
<b>53</b>	36	0	34.430	0	1	0	37742.575700
<b>54</b>	40	1	28.690	3	0	3	8059.679100
<b>55</b>	58	0	36.955	2	1	3	47496.494450
<b>56</b>	58	1	31.825	2	0	2	13607.368750
<b>57</b>	18	0	31.680	2	1	0	34303.167200
<b>58</b>	53	1	22.880	1	1	0	23244.790200
<b>59</b>	34	1	37.335	2	0	3	5989.523650
<b>60</b>	43	0	27.360	3	0	2	8606.217400
<b>61</b>	25	0	33.660	4	0	0	4504.662400
<b>62</b>	64	0	24.700	1	0	3	30166.618170
<b>63</b>	28	1	25.935	1	0	3	4133.641650
<b>64</b>	20	1	22.420	0	1	3	14711.743800
<b>65</b>	19	1	28.900	0	0	1	1743.214000
<b>66</b>	61	1	39.100	2	0	1	14235.072000
<b>67</b>	40	0	26.315	1	0	3	6389.377850
<b>68</b>	40	1	36.190	0	0	0	5920.104100
<b>69</b>	28	0	23.980	3	1	0	17663.144200
<b>70</b>	27	1	24.750	0	1	0	16577.779500
<b>71</b>	31	0	28.500	5	0	2	6799.458000
<b>72</b>	53	1	28.100	3	0	1	11741.726000
<b>73</b>	58	0	32.010	1	0	0	11946.625900
<b>74</b>	44	0	27.400	2	0	1	7726.854000
<b>75</b>	57	0	34.010	0	0	3	11356.660900
<b>76</b>	29	1	29.590	1	0	0	3947.413100
<b>77</b>	21	0	35.530	0	0	0	1532.469700

	age	sex	bmi	children	smoker	region	charges
<b>78</b>	22	1	39.805	0	0	2	2755.020950
<b>79</b>	41	1	32.965	0	0	3	6571.024350
<b>80</b>	31	0	26.885	1	0	2	4441.213150
<b>81</b>	45	1	38.285	0	0	2	7935.291150
<b>82</b>	22	0	37.620	1	1	0	37165.163800
<b>83</b>	48	1	41.230	4	0	3	11033.661700
<b>84</b>	37	1	34.800	2	1	1	39836.519000
<b>85</b>	45	0	22.895	2	1	3	21098.554050
<b>86</b>	57	1	31.160	0	1	3	43578.939400
<b>87</b>	56	1	27.200	0	0	1	11073.176000
<b>88</b>	46	1	27.740	0	0	3	8026.666600
<b>89</b>	55	1	26.980	0	0	3	11082.577200
<b>90</b>	21	1	39.490	0	0	0	2026.974100
<b>91</b>	53	1	24.795	1	0	3	10942.132050
<b>92</b>	59	0	29.830	3	1	2	30184.936700
<b>93</b>	35	0	34.770	2	0	3	5729.005300
<b>94</b>	64	1	31.300	2	1	1	47291.055000
<b>95</b>	28	1	37.620	1	0	0	3766.883800
<b>96</b>	54	1	30.800	3	0	1	12105.320000
<b>97</b>	55	0	38.280	0	0	0	10226.284200
<b>98</b>	56	0	19.950	0	1	2	22412.648500
<b>99</b>	38	0	19.300	0	1	1	15820.699000
<b>100</b>	41	1	31.600	0	0	1	6186.127000
<b>101</b>	30	0	25.460	0	0	2	3645.089400
<b>102</b>	18	1	30.115	0	0	2	21344.846700
<b>103</b>	61	1	29.920	3	1	0	30942.191800

	<b>age</b>	<b>sex</b>	<b>bmi</b>	<b>children</b>	<b>smoker</b>	<b>region</b>	<b>charges</b>
<b>104</b>	34	1	27.500	1	0	1	5003.853000
<b>105</b>	20	0	28.025	1	1	3	17560.379750
<b>106</b>	19	1	28.400	1	0	1	2331.519000
<b>107</b>	26	0	30.875	2	0	3	3877.304250
<b>108</b>	29	0	27.940	0	0	0	2867.119600
<b>109</b>	63	0	35.090	0	1	0	47055.532100
<b>110</b>	54	0	33.630	1	0	3	10825.253700
<b>111</b>	55	1	29.700	2	0	1	11881.358000
<b>112</b>	37	0	30.800	0	0	1	4646.759000
<b>113</b>	21	1	35.720	0	0	3	2404.733800
<b>114</b>	52	0	32.205	3	0	2	11488.316950
<b>115</b>	60	0	28.595	0	0	2	30259.995560
<b>116</b>	58	0	49.060	0	0	0	11381.325400
<b>117</b>	29	1	27.940	1	1	0	19107.779600
<b>118</b>	49	1	27.170	0	0	0	8601.329300
<b>119</b>	37	1	23.370	2	0	3	6686.431300
<b>120</b>	44	0	37.100	2	0	1	7740.337000
<b>121</b>	18	0	23.750	0	0	2	1705.624500
<b>122</b>	20	1	28.975	0	0	3	2257.475250
<b>123</b>	44	0	31.350	1	1	2	39556.494500
<b>124</b>	47	1	33.915	3	0	3	10115.008850
<b>125</b>	26	1	28.785	0	0	2	3385.399150
<b>126</b>	19	1	28.300	0	1	1	17081.080000
<b>127</b>	52	1	37.400	0	0	1	9634.538000
<b>128</b>	32	1	17.765	2	1	3	32734.186300
<b>129</b>	38	0	34.700	2	0	1	6082.405000

	age	sex	bmi	children	smoker	region	charges
<b>130</b>	59	1	26.505	0	0	2	12815.444950
<b>131</b>	61	1	22.040	0	0	2	13616.358600
<b>132</b>	53	1	35.900	2	0	1	11163.568000
<b>133</b>	19	0	25.555	0	0	3	1632.564450
<b>134</b>	20	1	28.785	0	0	2	2457.211150
<b>135</b>	22	1	28.050	0	0	0	2155.681500
<b>136</b>	19	0	34.100	0	0	1	1261.442000
<b>137</b>	22	0	25.175	0	0	3	2045.685250
<b>138</b>	54	1	31.900	3	0	0	27322.733860
<b>139</b>	22	1	36.000	0	0	1	2166.732000
<b>140</b>	34	0	22.420	2	0	2	27375.904780
<b>141</b>	26	0	32.490	1	0	2	3490.549100
<b>142</b>	34	0	25.300	2	1	0	18972.495000
<b>143</b>	29	0	29.735	2	0	3	18157.876000
<b>144</b>	30	0	28.690	3	1	3	20745.989100
<b>145</b>	29	1	38.830	3	0	0	5138.256700
<b>146</b>	46	0	30.495	3	1	3	40720.551050
<b>147</b>	51	1	37.730	1	0	0	9877.607700
<b>148</b>	53	1	37.430	1	0	3	10959.694700
<b>149</b>	19	0	28.400	1	0	1	1842.519000
<b>150</b>	35	0	24.130	1	0	3	5125.215700
<b>151</b>	48	0	29.700	0	0	0	7789.635000
<b>152</b>	32	1	37.145	3	0	2	6334.343550
<b>153</b>	42	1	23.370	0	1	2	19964.746300
<b>154</b>	40	1	25.460	1	0	2	7077.189400
<b>155</b>	44	0	39.520	0	0	3	6948.700800

	age	sex	bmi	children	smoker	region	charges
<b>156</b>	48	0	24.420	0	1	0	21223.675800
<b>157</b>	18	0	25.175	0	1	2	15518.180250
<b>158</b>	30	0	35.530	0	1	0	36950.256700
<b>159</b>	50	1	27.830	3	0	0	19749.383380
<b>160</b>	42	1	26.600	0	1	3	21348.706000
<b>161</b>	18	1	36.850	0	1	0	36149.483500
<b>162</b>	54	0	39.600	1	0	1	10450.552000
<b>163</b>	32	1	29.800	2	0	1	5152.134000
<b>164</b>	37	0	29.640	0	0	3	5028.146600
<b>165</b>	47	0	28.215	4	0	2	10407.085850
<b>166</b>	20	1	37.000	5	0	1	4830.630000
<b>167</b>	32	1	33.155	3	0	3	6128.797450
<b>168</b>	19	1	31.825	1	0	3	2719.279750
<b>169</b>	27	0	18.905	3	0	2	4827.904950
<b>170</b>	63	0	41.470	0	0	0	13405.390300
<b>171</b>	49	0	30.300	0	0	1	8116.680000
<b>172</b>	18	0	15.960	0	0	2	1694.796400
<b>173</b>	35	1	34.800	1	0	1	5246.047000
<b>174</b>	24	1	33.345	0	0	3	2855.437550
<b>175</b>	63	1	37.700	0	1	1	48824.450000
<b>176</b>	38	0	27.835	2	0	3	6455.862650
<b>177</b>	54	0	29.200	1	0	1	10436.096000
<b>178</b>	46	1	28.900	2	0	1	8823.279000
<b>179</b>	41	1	33.155	3	0	2	8538.288450
<b>180</b>	58	0	28.595	0	0	3	11735.879050
<b>181</b>	18	1	38.280	0	0	0	1631.821200

	<b>age</b>	<b>sex</b>	<b>bmi</b>	<b>children</b>	<b>smoker</b>	<b>region</b>	<b>charges</b>
<b>182</b>	22	0	19.950	3	0	2	4005.422500
<b>183</b>	44	1	26.410	0	0	3	7419.477900
<b>184</b>	44	0	30.690	2	0	0	7731.427100
<b>185</b>	36	0	41.895	3	1	2	43753.337050
<b>186</b>	26	1	29.920	2	0	0	3981.976800
<b>187</b>	30	1	30.900	3	0	1	5325.651000
<b>188</b>	41	1	32.200	1	0	1	6775.961000
<b>189</b>	29	1	32.110	2	0	3	4922.915900
<b>190</b>	61	0	31.570	0	0	0	12557.605300
<b>191</b>	36	1	26.200	0	0	1	4883.866000
<b>192</b>	25	0	25.740	0	0	0	2137.653600
<b>193</b>	56	1	26.600	1	0	3	12044.342000
<b>194</b>	18	0	34.430	0	0	0	1137.469700
<b>195</b>	19	0	30.590	0	0	3	1639.563100
<b>196</b>	39	1	32.800	0	0	1	5649.715000
<b>197</b>	45	1	28.600	2	0	0	8516.829000
<b>198</b>	51	1	18.050	0	0	3	9644.252500
<b>199</b>	64	1	39.330	0	0	2	14901.516700
<b>200</b>	19	1	32.110	0	0	3	2130.675900
<b>201</b>	48	1	32.230	1	0	0	8871.151700
<b>202</b>	60	1	24.035	0	0	3	13012.208650
<b>203</b>	27	1	36.080	0	1	0	37133.898200
<b>204</b>	46	0	22.300	0	0	1	7147.105000
<b>205</b>	28	1	28.880	1	0	2	4337.735200
<b>206</b>	59	0	26.400	0	0	0	11743.299000
<b>207</b>	35	0	27.740	2	1	2	20984.093600

	age	sex	bmi	children	smoker	region	charges
<b>208</b>	63	1	31.800	0	0	1	13880.949000
<b>209</b>	40	0	41.230	1	0	2	6610.109700
<b>210</b>	20	0	33.000	1	0	1	1980.070000
<b>211</b>	40	0	30.875	4	0	3	8162.716250
<b>212</b>	24	0	28.500	2	0	3	3537.703000
<b>213</b>	34	1	26.730	1	0	0	5002.782700
<b>214</b>	45	1	30.900	2	0	1	8520.026000
<b>215</b>	41	1	37.100	2	0	1	7371.772000
<b>216</b>	53	1	26.600	0	0	3	10355.641000
<b>217</b>	27	0	23.100	0	0	0	2483.736000
<b>218</b>	26	1	29.920	1	0	0	3392.976800
<b>219</b>	24	1	23.210	0	0	0	25081.767840
<b>220</b>	34	1	33.700	1	0	1	5012.471000
<b>221</b>	53	1	33.250	0	0	2	10564.884500
<b>222</b>	32	0	30.800	3	0	1	5253.524000
<b>223</b>	19	0	34.800	0	1	1	34779.615000
<b>224</b>	42	0	24.640	0	1	0	19515.541600
<b>225</b>	55	0	33.880	3	0	0	11987.168200
<b>226</b>	28	0	38.060	0	0	0	2689.495400
<b>227</b>	58	1	41.910	0	0	0	24227.337240
<b>228</b>	41	1	31.635	1	0	2	7358.175650
<b>229</b>	47	0	25.460	2	0	2	9225.256400
<b>230</b>	42	1	36.195	1	0	3	7443.643050
<b>231</b>	59	1	27.830	3	0	0	14001.286700
<b>232</b>	19	1	17.800	0	0	1	1727.785000
<b>233</b>	59	0	27.500	1	0	1	12333.828000

	age	sex	bmi	children	smoker	region	charges
<b>234</b>	39	0	24.510	2	0	3	6710.191900
<b>235</b>	40	1	22.220	2	1	0	19444.265800
<b>236</b>	18	1	26.730	0	0	0	1615.766700
<b>237</b>	31	0	38.390	2	0	0	4463.205100
<b>238</b>	19	0	29.070	0	1	3	17352.680300
<b>239</b>	44	0	38.060	1	0	0	7152.671400
<b>240</b>	23	1	36.670	2	1	2	38511.628300
<b>241</b>	33	1	22.135	1	0	2	5354.074650
<b>242</b>	55	1	26.800	1	0	1	35160.134570
<b>243</b>	40	0	35.300	3	0	1	7196.867000
<b>244</b>	63	1	27.740	0	1	2	29523.165600
<b>245</b>	54	0	30.020	0	0	3	24476.478510
<b>246</b>	60	1	38.060	0	0	0	12648.703400
<b>247</b>	24	0	35.860	0	0	0	1986.933400
<b>248</b>	19	0	20.900	1	0	1	1832.094000
<b>249</b>	29	0	28.975	1	0	2	4040.558250
<b>250</b>	18	0	17.290	2	1	2	12829.455100
<b>251</b>	63	1	32.200	2	1	1	47305.305000
<b>252</b>	54	0	34.210	2	1	0	44260.749900
<b>253</b>	27	0	30.300	3	0	1	4260.744000
<b>254</b>	50	0	31.825	0	1	2	41097.161750
<b>255</b>	55	1	25.365	3	0	2	13047.332350
<b>256</b>	56	0	33.630	0	1	3	43921.183700
<b>257</b>	38	1	40.150	0	0	0	5400.980500
<b>258</b>	51	0	24.415	4	0	3	11520.099850
<b>259</b>	19	0	31.920	0	1	3	33750.291800

	age	sex	bmi	children	smoker	region	charges
<b>260</b>	58	1	25.200	0	0	1	11837.160000
<b>261</b>	20	1	26.840	1	1	0	17085.267600
<b>262</b>	52	0	24.320	3	1	2	24869.836800
<b>263</b>	19	0	36.955	0	1	3	36219.405450
<b>264</b>	53	1	38.060	3	0	0	20462.997660
<b>265</b>	46	0	42.350	3	1	0	46151.124500
<b>266</b>	40	0	19.800	1	1	0	17179.522000
<b>267</b>	59	1	32.395	3	0	2	14590.632050
<b>268</b>	45	0	30.200	1	0	1	7441.053000
<b>269</b>	49	0	25.840	1	0	2	9282.480600
<b>270</b>	18	0	29.370	1	0	0	1719.436300
<b>271</b>	50	0	34.200	2	1	1	42856.838000
<b>272</b>	41	0	37.050	2	0	3	7265.702500
<b>273</b>	50	0	27.455	1	0	2	9617.662450
<b>274</b>	25	0	27.550	0	0	3	2523.169500
<b>275</b>	47	1	26.600	2	0	2	9715.841000
<b>276</b>	19	0	20.615	2	0	3	2803.697850
<b>277</b>	22	1	24.300	0	0	1	2150.469000
<b>278</b>	59	0	31.790	2	0	0	12928.791100
<b>279</b>	51	1	21.560	1	0	0	9855.131400
<b>280</b>	40	1	28.120	1	1	2	22331.566800
<b>281</b>	54	0	40.565	3	1	2	48549.178350
<b>282</b>	30	0	27.645	1	0	2	4237.126550
<b>283</b>	55	1	32.395	1	0	2	11879.104050
<b>284</b>	52	1	31.200	0	0	1	9625.920000
<b>285</b>	46	0	26.620	1	0	0	7742.109800

	age	sex	bmi	children	smoker	region	charges
286	46	1	48.070	2	0	2	9432.925300
287	63	1	26.220	0	0	3	14256.192800
288	59	1	36.765	1	1	2	47896.791350
289	52	0	26.400	3	0	0	25992.821040
290	28	1	33.400	0	0	1	3172.018000
291	29	0	29.640	1	0	2	20277.807510
292	25	0	45.540	2	1	0	42112.235600
293	22	1	28.820	0	0	0	2156.751800
294	25	0	26.800	3	0	1	3906.127000
295	18	0	22.990	0	0	2	1704.568100
296	19	0	27.700	0	1	1	16297.846000
297	47	0	25.410	1	1	0	21978.676900
298	31	0	34.390	3	1	3	38746.355100
299	48	1	28.880	1	0	3	9249.495200
300	36	0	27.550	3	0	2	6746.742500
301	53	1	22.610	3	1	2	24873.384900
302	56	1	37.510	2	0	0	12265.506900
303	28	1	33.000	2	0	0	4349.462000
304	57	1	38.000	2	0	1	12646.207000
305	29	0	33.345	2	0	3	19442.353500
306	28	1	27.500	2	0	1	20177.671130
307	30	1	33.330	1	0	0	4151.028700
308	58	0	34.865	0	0	2	11944.594350
309	41	1	33.060	2	0	3	7749.156400
310	50	0	26.600	0	0	1	8444.474000
311	19	1	24.700	0	0	1	1737.376000

	age	sex	bmi	children	smoker	region	charges
<b>312</b>	43	0	35.970	3	1	0	42124.515300
<b>313</b>	49	0	35.860	0	0	0	8124.408400
<b>314</b>	27	1	31.400	0	1	1	34838.873000
<b>315</b>	52	0	33.250	0	0	2	9722.769500
<b>316</b>	50	0	32.205	0	0	3	8835.264950
<b>317</b>	54	0	32.775	0	0	2	10435.065250
<b>318</b>	44	1	27.645	0	0	3	7421.194550
<b>319</b>	32	0	37.335	1	0	2	4667.607650
<b>320</b>	34	0	25.270	1	0	3	4894.753300
<b>321</b>	26	1	29.640	4	0	2	24671.663340
<b>322</b>	34	0	30.800	0	1	1	35491.640000
<b>323</b>	57	0	40.945	0	0	2	11566.300550
<b>324</b>	29	0	27.200	0	0	1	2866.091000
<b>325</b>	40	0	34.105	1	0	2	6600.205950
<b>326</b>	27	1	23.210	1	0	0	3561.888900
<b>327</b>	45	0	36.480	2	1	3	42760.502200
<b>328</b>	64	1	33.800	1	1	1	47928.030000
<b>329</b>	52	0	36.700	0	0	1	9144.565000
<b>330</b>	61	1	36.385	1	1	2	48517.563150
<b>331</b>	52	0	27.360	0	1	3	24393.622400
<b>332</b>	61	1	31.160	0	0	3	13429.035400
<b>333</b>	56	1	28.785	0	0	2	11658.379150
<b>334</b>	43	1	35.720	2	0	2	19144.576520
<b>335</b>	64	0	34.500	0	0	1	13822.803000
<b>336</b>	60	0	25.740	0	0	0	12142.578600
<b>337</b>	62	0	27.550	1	0	3	13937.666500

	age	sex	bmi	children	smoker	region	charges
<b>338</b>	50	0	32.300	1	1	2	41919.09700
<b>339</b>	46	1	27.720	1	0	0	8232.638800
<b>340</b>	24	1	27.600	0	0	1	18955.220170
<b>341</b>	62	0	30.020	0	0	3	13352.099800
<b>342</b>	60	1	27.550	0	0	2	13217.094500
<b>343</b>	63	0	36.765	0	0	2	13981.850350
<b>344</b>	49	1	41.470	4	0	0	10977.206300
<b>345</b>	34	1	29.260	3	0	0	6184.299400
<b>346</b>	33	0	35.750	2	0	0	4889.999500
<b>347</b>	46	0	33.345	1	0	2	8334.457550
<b>348</b>	36	1	29.920	1	0	0	5478.036800
<b>349</b>	19	0	27.835	0	0	3	1635.733650
<b>350</b>	57	1	23.180	0	0	3	11830.607200
<b>351</b>	50	1	25.600	0	0	1	8932.084000
<b>352</b>	30	1	27.700	0	0	1	3554.203000
<b>353</b>	33	0	35.245	0	0	2	12404.879100
<b>354</b>	18	1	38.280	0	0	0	14133.037750
<b>355</b>	46	0	27.600	0	0	1	24603.048370
<b>356</b>	46	0	43.890	3	0	0	8944.115100
<b>357</b>	47	0	29.830	3	0	3	9620.330700
<b>358</b>	23	0	41.910	0	0	0	1837.281900
<b>359</b>	18	1	20.790	0	0	0	1607.510100
<b>360</b>	48	1	32.300	2	0	2	10043.249000
<b>361</b>	35	0	30.500	1	0	1	4751.070000
<b>362</b>	19	1	21.700	0	1	1	13844.506000
<b>363</b>	21	1	26.400	1	0	1	2597.779000

	age	sex	bmi	children	smoker	region	charges
364	21	1	21.890	2	0	0	3180.510100
365	49	1	30.780	1	0	2	9778.347200
366	56	1	32.300	3	0	2	13430.265000
367	42	1	24.985	2	0	3	8017.061150
368	44	0	32.015	2	0	3	8116.268850
369	18	0	30.400	3	0	2	3481.868000
370	61	1	21.090	0	0	3	13415.038100
371	57	1	22.230	0	0	2	12029.286700
372	42	1	33.155	1	0	2	7639.417450
373	26	0	32.900	2	1	1	36085.219000
374	20	0	33.330	0	0	0	1391.528700
375	23	1	28.310	0	1	3	18033.967900
376	39	1	24.890	3	1	2	21659.930100
377	24	0	40.150	0	1	0	38126.246500
378	64	1	30.115	3	0	3	16455.707850
379	62	0	31.460	1	0	0	27000.984730
380	27	1	17.955	2	1	2	15006.579450
381	55	0	30.685	0	1	2	42303.692150
382	55	0	33.000	0	0	0	20781.488920
383	35	1	43.340	2	0	0	5846.917600
384	44	0	22.135	2	0	2	8302.535650
385	19	0	34.400	0	0	1	1261.859000
386	58	1	39.050	0	0	0	11856.411500
387	50	0	25.365	2	0	3	30284.642940
388	26	1	22.610	0	0	3	3176.815900
389	24	1	30.210	3	0	3	4618.079900

	age	sex	bmi	children	smoker	region	charges
<b>390</b>	48	0	35.625	4	0	2	10736.870750
<b>391</b>	19	1	37.430	0	0	3	2138.070700
<b>392</b>	48	0	31.445	1	0	2	8964.060550
<b>393</b>	49	0	31.350	1	0	2	9290.139500
<b>394</b>	46	1	32.300	2	0	2	9411.005000
<b>395</b>	46	0	19.855	0	0	3	7526.706450
<b>396</b>	43	1	34.400	3	0	1	8522.003000
<b>397</b>	21	0	31.020	0	0	0	16586.497710
<b>398</b>	64	0	25.600	2	0	1	14988.432000
<b>399</b>	18	1	38.170	0	0	0	1631.668300
<b>400</b>	51	1	20.600	0	0	1	9264.797000
<b>401</b>	47	0	47.520	1	0	0	8083.919800
<b>402</b>	64	1	32.965	0	0	3	14692.669350
<b>403</b>	49	0	32.300	3	0	3	10269.460000
<b>404</b>	31	0	20.400	0	0	1	3260.199000
<b>405</b>	52	1	38.380	2	0	2	11396.900200
<b>406</b>	33	1	24.310	0	0	0	4185.097900
<b>407</b>	47	1	23.600	1	0	1	8539.671000
<b>408</b>	38	0	21.120	3	0	0	6652.528800
<b>409</b>	32	0	30.030	1	0	0	4074.453700
<b>410</b>	19	0	17.480	0	0	3	1621.340200
<b>411</b>	44	1	20.235	1	1	2	19594.809650
<b>412</b>	26	1	17.195	2	1	2	14455.644050
<b>413</b>	25	0	23.900	5	0	1	5080.096000
<b>414</b>	19	1	35.150	0	0	3	2134.901500
<b>415</b>	43	1	35.640	1	0	0	7345.726600

	age	sex	bmi	children	smoker	region	charges
<b>416</b>	52	0	34.100	0	0	0	9140.951000
<b>417</b>	36	1	22.600	2	1	1	18608.262000
<b>418</b>	64	0	39.160	1	0	0	14418.280400
<b>419</b>	63	1	26.980	0	1	3	28950.469200
<b>420</b>	64	0	33.880	0	1	0	46889.261200
<b>421</b>	61	0	35.860	0	1	0	46599.108400
<b>422</b>	40	0	32.775	1	1	2	39125.332250
<b>423</b>	25	0	30.590	0	0	2	2727.395100
<b>424</b>	48	0	30.200	2	0	1	8968.330000
<b>425</b>	45	0	24.310	5	0	0	9788.865900
<b>426</b>	38	1	27.265	1	0	2	6555.070350
<b>427</b>	18	1	29.165	0	0	2	7323.734819
<b>428</b>	21	1	16.815	1	0	2	3167.455850
<b>429</b>	27	1	30.400	3	0	3	18804.752400
<b>430</b>	19	0	33.100	0	0	1	23082.955330
<b>431</b>	29	1	20.235	2	0	3	4906.409650
<b>432</b>	42	0	26.900	0	0	1	5969.723000
<b>433</b>	60	1	30.500	0	0	1	12638.195000
<b>434</b>	31	0	28.595	1	0	3	4243.590050
<b>435</b>	60	0	33.110	3	0	0	13919.822900
<b>436</b>	22	0	31.730	0	0	2	2254.796700
<b>437</b>	35	0	28.900	3	0	1	5926.846000
<b>438</b>	52	1	46.750	5	0	0	12592.534500
<b>439</b>	26	0	29.450	0	0	2	2897.323500
<b>440</b>	31	1	32.680	1	0	3	4738.268200
<b>441</b>	33	1	33.500	0	1	1	37079.372000

	age	sex	bmi	children	smoker	region	charges
<b>442</b>	18	0	43.010	0	0	0	1149.395900
<b>443</b>	59	1	36.520	1	0	0	28287.897660
<b>444</b>	56	0	26.695	1	1	3	26109.329050
<b>445</b>	45	1	33.100	0	0	1	7345.084000
<b>446</b>	60	0	29.640	0	0	2	12730.999600
<b>447</b>	56	1	25.650	0	0	3	11454.021500
<b>448</b>	40	1	29.600	0	0	1	5910.944000
<b>449</b>	35	0	38.600	1	0	1	4762.329000
<b>450</b>	39	0	29.600	4	0	1	7512.267000
<b>451</b>	30	0	24.130	1	0	3	4032.240700
<b>452</b>	24	0	23.400	0	0	1	1969.614000
<b>453</b>	20	0	29.735	0	0	3	1769.531650
<b>454</b>	32	0	46.530	2	0	0	4686.388700
<b>455</b>	59	0	37.400	0	0	1	21797.000400
<b>456</b>	55	1	30.140	2	0	0	11881.969600
<b>457</b>	57	1	30.495	0	0	3	11840.775050
<b>458</b>	56	0	39.600	0	0	1	10601.412000
<b>459</b>	40	1	33.000	3	0	0	7682.670000
<b>460</b>	49	1	36.630	3	0	0	10381.478700
<b>461</b>	42	0	30.000	0	1	1	22144.032000
<b>462</b>	62	1	38.095	2	0	2	15230.324050
<b>463</b>	56	0	25.935	0	0	2	11165.417650
<b>464</b>	19	0	25.175	0	0	3	1632.036250
<b>465</b>	30	1	28.380	1	1	0	19521.968200
<b>466</b>	60	1	28.700	1	0	1	13224.693000
<b>467</b>	56	1	33.820	2	0	3	12643.377800

	age	sex	bmi	children	smoker	region	charges
<b>468</b>	28	1	24.320	1	0	2	23288.928400
<b>469</b>	18	1	24.090	1	0	0	2201.097100
<b>470</b>	27	0	32.670	0	0	0	2497.038300
<b>471</b>	18	1	30.115	0	0	2	2203.471850
<b>472</b>	19	1	29.800	0	0	1	1744.465000
<b>473</b>	47	1	33.345	0	0	2	20878.784430
<b>474</b>	54	0	25.100	3	1	1	25382.297000
<b>475</b>	61	0	28.310	1	1	3	28868.663900
<b>476</b>	24	0	28.500	0	1	2	35147.528480
<b>477</b>	25	0	35.625	0	0	3	2534.393750
<b>478</b>	21	0	36.850	0	0	0	1534.304500
<b>479</b>	23	0	32.560	0	0	0	1824.285400
<b>480</b>	63	0	41.325	3	0	3	15555.188750
<b>481</b>	49	0	37.510	2	0	0	9304.701900
<b>482</b>	18	1	31.350	0	0	0	1622.188500
<b>483</b>	51	1	39.500	1	0	1	9880.068000
<b>484</b>	48	0	34.300	3	0	1	9563.029000
<b>485</b>	31	1	31.065	0	0	2	4347.023350
<b>486</b>	54	1	21.470	3	0	3	12475.351300
<b>487</b>	19	0	28.700	0	0	1	1253.936000
<b>488</b>	44	1	38.060	0	1	0	48885.135610
<b>489</b>	53	0	31.160	1	0	3	10461.979400
<b>490</b>	19	1	32.900	0	0	1	1748.774000
<b>491</b>	61	1	25.080	0	0	0	24513.091260
<b>492</b>	18	1	25.080	0	0	2	2196.473200
<b>493</b>	61	0	43.400	0	0	1	12574.049000

	age	sex	bmi	children	smoker	region	charges
<b>494</b>	21	0	25.700	4	1	1	17942.106000
<b>495</b>	20	0	27.930	0	0	2	1967.022700
<b>496</b>	31	1	23.600	2	0	1	4931.647000
<b>497</b>	45	0	28.700	2	0	1	8027.968000
<b>498</b>	44	1	23.980	2	0	0	8211.100200
<b>499</b>	62	1	39.200	0	0	1	13470.860000
<b>500</b>	29	0	34.400	0	1	1	36197.699000
<b>501</b>	43	0	26.030	0	0	2	6837.368700
<b>502</b>	51	0	23.210	1	1	0	22218.114900
<b>503</b>	19	0	30.250	0	1	0	32548.340500
<b>504</b>	38	1	28.930	1	0	0	5974.384700
<b>505</b>	37	0	30.875	3	0	3	6796.863250
<b>506</b>	22	0	31.350	1	0	3	2643.268500
<b>507</b>	21	0	23.750	2	0	3	3077.095500
<b>508</b>	24	1	25.270	0	0	2	3044.213300
<b>509</b>	57	1	28.700	0	0	1	11455.280000
<b>510</b>	56	0	32.110	1	0	2	11763.000900
<b>511</b>	27	0	33.660	0	0	0	2498.414400
<b>512</b>	51	0	22.420	0	0	2	9361.326800
<b>513</b>	19	0	30.400	0	0	1	1256.299000
<b>514</b>	39	0	28.300	1	1	1	21082.160000
<b>515</b>	58	0	35.700	0	0	1	11362.755000
<b>516</b>	20	0	35.310	1	0	0	27724.288750
<b>517</b>	45	0	30.495	2	0	3	8413.463050
<b>518</b>	35	1	31.000	1	0	1	5240.765000
<b>519</b>	31	0	30.875	0	0	2	3857.759250

	age	sex	bmi	children	smoker	region	charges
<b>520</b>	50	1	27.360	0	0	2	25656.575260
<b>521</b>	32	1	44.220	0	0	0	3994.177800
<b>522</b>	51	1	33.915	0	0	2	9866.304850
<b>523</b>	38	1	37.730	0	0	0	5397.616700
<b>524</b>	42	0	26.070	1	1	0	38245.593270
<b>525</b>	18	1	33.880	0	0	0	11482.634850
<b>526</b>	19	1	30.590	2	0	3	24059.680190
<b>527</b>	51	1	25.800	1	0	1	9861.025000
<b>528</b>	46	0	39.425	1	0	2	8342.908750
<b>529</b>	18	0	25.460	0	0	2	1708.001400
<b>530</b>	57	0	42.130	1	1	0	48675.517700
<b>531</b>	62	1	31.730	0	0	2	14043.476700
<b>532</b>	59	0	29.700	2	0	0	12925.886000
<b>533</b>	37	0	36.190	0	0	0	19214.705530
<b>534</b>	64	0	40.480	0	0	0	13831.115200
<b>535</b>	38	0	28.025	1	0	2	6067.126750
<b>536</b>	33	1	38.900	3	0	1	5972.378000
<b>537</b>	46	1	30.200	2	0	1	8825.086000
<b>538</b>	46	1	28.050	1	0	0	8233.097500
<b>539</b>	53	0	31.350	0	0	0	27346.042070
<b>540</b>	34	1	38.000	3	0	1	6196.448000
<b>541</b>	20	1	31.790	2	0	0	3056.388100
<b>542</b>	63	1	36.300	0	0	0	13887.204000
<b>543</b>	54	1	47.410	0	1	0	63770.428010
<b>544</b>	54	0	30.210	0	0	3	10231.499900
<b>545</b>	49	0	25.840	2	1	3	23807.240600

	age	sex	bmi	children	smoker	region	charges
<b>546</b>	28	0	35.435	0	0	2	3268.846650
<b>547</b>	54	1	46.700	2	0	1	11538.421000
<b>548</b>	25	1	28.595	0	0	2	3213.622050
<b>549</b>	43	1	46.200	0	1	0	45863.205000
<b>550</b>	63	0	30.800	0	0	1	13390.559000
<b>551</b>	32	1	28.930	0	0	0	3972.924700
<b>552</b>	62	0	21.400	0	0	1	12957.118000
<b>553</b>	52	1	31.730	2	0	3	11187.656700
<b>554</b>	25	1	41.325	0	0	2	17878.900680
<b>555</b>	28	0	23.800	2	0	1	3847.674000
<b>556</b>	46	0	33.440	1	0	2	8334.589600
<b>557</b>	34	0	34.210	0	0	0	3935.179900
<b>558</b>	35	1	34.105	3	1	3	39983.425950
<b>559</b>	19	0	35.530	0	0	3	1646.429700
<b>560</b>	46	1	19.950	2	0	3	9193.838500
<b>561</b>	54	1	32.680	0	0	2	10923.933200
<b>562</b>	27	0	30.500	0	0	1	2494.022000
<b>563</b>	50	0	44.770	1	0	0	9058.730300
<b>564</b>	18	1	32.120	2	0	0	2801.258800
<b>565</b>	19	1	30.495	0	0	3	2128.431050
<b>566</b>	38	1	40.565	1	0	3	6373.557350
<b>567</b>	41	0	30.590	2	0	3	7256.723100
<b>568</b>	49	1	31.900	5	0	1	11552.904000
<b>569</b>	48	0	40.565	2	1	3	45702.022350
<b>570</b>	31	1	29.100	0	0	1	3761.292000
<b>571</b>	18	1	37.290	1	0	0	2219.445100

	age	sex	bmi	children	smoker	region	charges
<b>572</b>	30	1	43.120	2	0	0	4753.636800
<b>573</b>	62	1	36.860	1	0	2	31620.001060
<b>574</b>	57	1	34.295	2	0	2	13224.057050
<b>575</b>	58	1	27.170	0	0	3	12222.898300
<b>576</b>	22	0	26.840	0	0	0	1664.999600
<b>577</b>	31	1	38.095	1	1	2	58571.074480
<b>578</b>	52	0	30.200	1	0	1	9724.530000
<b>579</b>	25	1	23.465	0	0	2	3206.491350
<b>580</b>	59	0	25.460	1	0	2	12913.992400
<b>581</b>	19	0	30.590	0	0	3	1639.563100
<b>582</b>	39	0	45.430	2	0	0	6356.270700
<b>583</b>	32	1	23.650	1	0	0	17626.239510
<b>584</b>	19	0	20.700	0	0	1	1242.816000
<b>585</b>	33	1	28.270	1	0	0	4779.602300
<b>586</b>	21	0	20.235	3	0	2	3861.209650
<b>587</b>	34	1	30.210	1	1	3	43943.876100
<b>588</b>	61	1	35.910	0	0	2	13635.637900
<b>589</b>	38	1	30.690	1	0	0	5976.831100
<b>590</b>	58	1	29.000	0	0	1	11842.442000
<b>591</b>	47	0	19.570	1	0	3	8428.069300
<b>592</b>	20	0	31.130	2	0	0	2566.470700
<b>593</b>	21	1	21.850	1	1	2	15359.104500
<b>594</b>	41	0	40.260	0	0	0	5709.164400
<b>595</b>	46	1	33.725	1	0	2	8823.985750
<b>596</b>	42	1	29.480	2	0	0	7640.309200
<b>597</b>	34	1	33.250	1	0	2	5594.845500

	age	sex	bmi	children	smoker	region	charges
<b>598</b>	43	0	32.600	2	0	1	7441.501000
<b>599</b>	52	1	37.525	2	0	3	33471.971890
<b>600</b>	18	1	39.160	0	0	0	1633.044400
<b>601</b>	51	0	31.635	0	0	3	9174.135650
<b>602</b>	56	1	25.300	0	0	1	11070.535000
<b>603</b>	64	1	39.050	3	0	0	16085.127500
<b>604</b>	19	1	28.310	0	1	3	17468.983900
<b>605</b>	51	1	34.100	0	0	0	9283.562000
<b>606</b>	27	1	25.175	0	0	2	3558.620250
<b>607</b>	59	1	23.655	0	1	3	25678.778450
<b>608</b>	28	0	26.980	2	0	2	4435.094200
<b>609</b>	30	0	37.800	2	1	1	39241.442000
<b>610</b>	47	1	29.370	1	0	0	8547.691300
<b>611</b>	38	1	34.800	2	0	1	6571.544000
<b>612</b>	18	1	33.155	0	0	2	2207.697450
<b>613</b>	34	1	19.000	3	0	2	6753.038000
<b>614</b>	20	1	33.000	0	0	0	1880.070000
<b>615</b>	47	1	36.630	1	1	0	42969.852700
<b>616</b>	56	1	28.595	0	0	2	11658.115050
<b>617</b>	49	0	25.600	2	1	1	23306.547000
<b>618</b>	19	1	33.110	0	1	0	34439.855900
<b>619</b>	55	1	37.100	0	0	1	10713.644000
<b>620</b>	30	0	31.400	1	0	1	3659.346000
<b>621</b>	37	0	34.100	4	1	1	40182.246000
<b>622</b>	49	1	21.300	1	0	1	9182.170000
<b>623</b>	18	0	33.535	0	1	2	34617.840650

	age	sex	bmi	children	smoker	region	charges
<b>624</b>	59	0	28.785	0	0	3	12129.614150
<b>625</b>	29	1	26.030	0	0	3	3736.464700
<b>626</b>	36	0	28.880	3	0	2	6748.591200
<b>627</b>	33	0	42.460	1	0	0	11326.714870
<b>628</b>	58	0	38.000	0	0	1	11365.952000
<b>629</b>	44	1	38.950	0	1	3	42983.458500
<b>630</b>	53	0	36.100	1	0	1	10085.846000
<b>631</b>	24	0	29.300	0	0	1	1977.815000
<b>632</b>	29	1	35.530	0	0	0	3366.669700
<b>633</b>	40	0	22.705	2	0	2	7173.359950
<b>634</b>	51	0	39.700	1	0	1	9391.346000
<b>635</b>	64	0	38.190	0	0	2	14410.932100
<b>636</b>	19	1	24.510	1	0	3	2709.111900
<b>637</b>	35	1	38.095	2	0	2	24915.046260
<b>638</b>	39	0	26.410	0	1	2	20149.322900
<b>639</b>	56	0	33.660	4	0	0	12949.155400
<b>640</b>	33	0	42.400	5	0	1	6666.243000
<b>641</b>	42	0	28.310	3	1	3	32787.458590
<b>642</b>	61	0	33.915	0	0	2	13143.864850
<b>643</b>	23	1	34.960	3	0	3	4466.621400
<b>644</b>	43	0	35.310	2	0	0	18806.145470
<b>645</b>	48	0	30.780	3	0	2	10141.136200
<b>646</b>	39	0	26.220	1	0	3	6123.568800
<b>647</b>	40	1	23.370	3	0	2	8252.284300
<b>648</b>	18	0	28.500	0	0	2	1712.227000
<b>649</b>	58	1	32.965	0	0	2	12430.953350

	age	sex	bmi	children	smoker	region	charges
<b>650</b>	49	1	42.680	2	0	0	9800.888200
<b>651</b>	53	1	39.600	1	0	0	10579.711000
<b>652</b>	48	1	31.130	0	0	0	8280.622700
<b>653</b>	45	1	36.300	2	0	0	8527.532000
<b>654</b>	59	1	35.200	0	0	0	12244.531000
<b>655</b>	52	1	25.300	2	1	0	24667.419000
<b>656</b>	26	1	42.400	1	0	1	3410.324000
<b>657</b>	27	0	33.155	2	0	3	4058.712450
<b>658</b>	48	1	35.910	1	0	2	26392.260290
<b>659</b>	57	1	28.785	4	0	2	14394.398150
<b>660</b>	37	0	46.530	3	0	0	6435.623700
<b>661</b>	57	1	23.980	1	0	0	22192.437110
<b>662</b>	32	1	31.540	1	0	2	5148.552600
<b>663</b>	18	0	33.660	0	0	0	1136.399400
<b>664</b>	64	1	22.990	0	1	0	27037.914100
<b>665</b>	43	0	38.060	2	1	0	42560.430400
<b>666</b>	49	0	28.700	1	0	1	8703.456000
<b>667</b>	40	1	32.775	2	1	3	40003.332250
<b>668</b>	62	0	32.015	0	1	2	45710.207850
<b>669</b>	40	1	29.810	1	0	0	6500.235900
<b>670</b>	30	0	31.570	3	0	0	4837.582300
<b>671</b>	29	1	31.160	0	0	2	3943.595400
<b>672</b>	36	0	29.700	0	0	0	4399.731000
<b>673</b>	41	1	31.020	0	0	0	6185.320800
<b>674</b>	44	1	43.890	2	1	0	46200.985100
<b>675</b>	45	0	21.375	0	0	3	7222.786250

	age	sex	bmi	children	smoker	region	charges
<b>676</b>	55	1	40.810	3	0	0	12485.800900
<b>677</b>	60	0	31.350	3	1	3	46130.526500
<b>678</b>	56	0	36.100	3	0	1	12363.547000
<b>679</b>	49	1	23.180	2	0	3	10156.783200
<b>680</b>	21	1	17.400	1	0	1	2585.269000
<b>681</b>	19	0	20.300	0	0	1	1242.260000
<b>682</b>	39	0	35.300	2	1	1	40103.890000
<b>683</b>	53	0	24.320	0	0	3	9863.471800
<b>684</b>	33	1	18.500	1	0	1	4766.022000
<b>685</b>	53	0	26.410	2	0	2	11244.376900
<b>686</b>	42	0	26.125	2	0	2	7729.645750
<b>687</b>	40	0	41.690	0	0	0	5438.749100
<b>688</b>	47	1	24.100	1	0	1	26236.579970
<b>689</b>	27	0	31.130	1	1	0	34806.467700
<b>690</b>	21	0	27.360	0	0	2	2104.113400
<b>691</b>	47	0	36.200	1	0	1	8068.185000
<b>692</b>	20	0	32.395	1	0	3	2362.229050
<b>693</b>	24	0	23.655	0	0	3	2352.968450
<b>694</b>	27	1	34.800	1	0	1	3577.999000
<b>695</b>	26	1	40.185	0	0	3	3201.245150
<b>696</b>	53	1	32.300	2	0	2	29186.482360
<b>697</b>	41	0	35.750	1	1	0	40273.645500
<b>698</b>	56	0	33.725	0	0	3	10976.245750
<b>699</b>	23	1	39.270	2	0	0	3500.612300
<b>700</b>	21	1	34.870	0	0	0	2020.552300
<b>701</b>	50	1	44.745	0	0	2	9541.695550

	age	sex	bmi	children	smoker	region	charges
<b>702</b>	53	0	41.470	0	0	0	9504.310300
<b>703</b>	34	1	26.410	1	0	3	5385.337900
<b>704</b>	47	1	29.545	1	0	3	8930.934550
<b>705</b>	33	1	32.900	2	0	1	5375.038000
<b>706</b>	51	1	38.060	0	1	0	44400.406400
<b>707</b>	49	0	28.690	3	0	3	10264.442100
<b>708</b>	31	1	30.495	3	0	2	6113.231050
<b>709</b>	36	1	27.740	0	0	2	5469.006600
<b>710</b>	18	0	35.200	1	0	0	1727.540000
<b>711</b>	50	1	23.540	2	0	0	10107.220600
<b>712</b>	43	1	30.685	2	0	3	8310.839150
<b>713</b>	20	0	40.470	0	0	2	1984.453300
<b>714</b>	24	1	22.600	0	0	1	2457.502000
<b>715</b>	60	0	28.900	0	0	1	12146.971000
<b>716</b>	49	1	22.610	1	0	3	9566.990900
<b>717</b>	60	0	24.320	1	0	3	13112.604800
<b>718</b>	51	1	36.670	2	0	3	10848.134300
<b>719</b>	58	1	33.440	0	0	3	12231.613600
<b>720</b>	51	1	40.660	0	0	2	9875.680400
<b>721</b>	53	0	36.600	3	0	1	11264.541000
<b>722</b>	62	0	37.400	0	0	1	12979.358000
<b>723</b>	19	0	35.400	0	0	1	1263.249000
<b>724</b>	50	1	27.075	1	0	2	10106.134250
<b>725</b>	30	1	39.050	3	1	0	40932.429500
<b>726</b>	41	0	28.405	1	0	3	6664.685950
<b>727</b>	29	1	21.755	1	1	2	16657.717450

	age	sex	bmi	children	smoker	region	charges
728	18	1	40.280	0	0	2	2217.601200
729	41	1	36.080	1	0	0	6781.354200
730	35	0	24.420	3	1	0	19361.998800
731	53	0	21.400	1	0	1	10065.413000
732	24	1	30.100	3	0	1	4234.927000
733	48	1	27.265	1	0	2	9447.250350
734	59	1	32.100	3	0	1	14007.222000
735	49	1	34.770	1	0	3	9583.893300
736	37	1	38.390	0	1	0	40419.019100
737	26	0	23.700	2	0	1	3484.331000
738	23	0	31.730	3	1	2	36189.101700
739	29	0	35.500	2	1	1	44585.455870
740	45	0	24.035	2	0	2	8604.483650
741	27	0	29.150	0	1	0	18246.495500
742	53	0	34.105	0	1	2	43254.417950
743	31	1	26.620	0	0	0	3757.844800
744	50	0	26.410	0	0	3	8827.209900
745	50	1	30.115	1	0	3	9910.359850
746	34	0	27.000	2	0	1	11737.848840
747	19	0	21.755	0	0	3	1627.282450
748	47	1	36.000	1	0	1	8556.907000
749	28	0	30.875	0	0	3	3062.508250
750	37	1	26.400	0	1	0	19539.243000
751	21	0	28.975	0	0	3	1906.358250
752	64	0	37.905	0	0	3	14210.535950
753	58	1	22.770	0	0	0	11833.782300

	age	sex	bmi	children	smoker	region	charges
754	24	0	33.630	4	0	2	17128.426080
755	31	0	27.645	2	0	2	5031.269550
756	39	1	22.800	3	0	2	7985.815000
757	47	1	27.830	0	1	0	23065.420700
758	30	0	37.430	3	0	2	5428.727700
759	18	0	38.170	0	1	0	36307.798300
760	22	1	34.580	2	0	2	3925.758200
761	23	0	35.200	1	0	1	2416.955000
762	33	0	27.100	1	1	1	19040.876000
763	27	0	26.030	0	0	2	3070.808700
764	45	1	25.175	2	0	2	9095.068250
765	57	1	31.825	0	0	3	11842.623750
766	47	0	32.300	1	0	1	8062.764000
767	42	1	29.000	1	0	1	7050.642000
768	64	1	39.700	0	0	1	14319.031000
769	38	1	19.475	2	0	3	6933.242250
770	61	0	36.100	3	0	1	27941.287580
771	53	1	26.700	2	0	1	11150.780000
772	44	1	36.480	0	0	2	12797.209620
773	19	1	28.880	0	1	3	17748.506200
774	41	0	34.200	2	0	3	7261.741000
775	51	0	33.330	3	0	0	10560.491700
776	40	0	32.300	2	0	3	6986.697000
777	45	0	39.805	0	0	2	7448.403950
778	35	0	34.320	3	0	0	5934.379800
779	53	0	28.880	0	0	3	9869.810200

	age	sex	bmi	children	smoker	region	charges
<b>780</b>	30	0	24.400	3	1	1	18259.216000
<b>781</b>	18	0	41.140	0	0	0	1146.796600
<b>782</b>	51	0	35.970	1	0	0	9386.161300
<b>783</b>	50	1	27.600	1	1	1	24520.264000
<b>784</b>	31	1	29.260	1	0	0	4350.514400
<b>785</b>	35	1	27.700	3	0	1	6414.178000
<b>786</b>	60	0	36.955	0	0	2	12741.167450
<b>787</b>	21	0	36.860	0	0	3	1917.318400
<b>788</b>	29	0	22.515	3	0	2	5209.578850
<b>789</b>	62	1	29.920	0	0	0	13457.960800
<b>790</b>	39	1	41.800	0	0	0	5662.225000
<b>791</b>	19	0	27.600	0	0	1	1252.407000
<b>792</b>	22	1	23.180	0	0	2	2731.912200
<b>793</b>	53	0	20.900	0	1	0	21195.818000
<b>794</b>	39	1	31.920	2	0	3	7209.491800
<b>795</b>	27	0	28.500	0	1	3	18310.742000
<b>796</b>	30	0	44.220	2	0	0	4266.165800
<b>797</b>	30	1	22.895	1	0	2	4719.524050
<b>798</b>	58	1	33.100	0	0	1	11848.141000
<b>799</b>	33	0	24.795	0	1	2	17904.527050
<b>800</b>	42	1	26.180	1	0	0	7046.722200
<b>801</b>	64	1	35.970	0	0	0	14313.846300
<b>802</b>	21	0	22.300	1	0	1	2103.080000
<b>803</b>	18	1	42.240	0	1	0	38792.685600
<b>804</b>	23	0	26.510	0	0	0	1815.875900
<b>805</b>	45	1	35.815	0	0	3	7731.857850

	age	sex	bmi	children	smoker	region	charges
806	40	1	41.420	1	0	3	28476.734990
807	19	1	36.575	0	0	3	2136.882250
808	18	0	30.140	0	0	0	1131.506600
809	25	0	25.840	1	0	2	3309.792600
810	46	1	30.800	3	0	1	9414.920000
811	33	1	42.940	3	0	3	6360.993600
812	54	0	21.010	2	0	0	11013.711900
813	28	0	22.515	2	0	2	4428.887850
814	36	0	34.430	2	0	0	5584.305700
815	20	1	31.460	0	0	0	1877.929400
816	24	1	24.225	0	0	3	2842.760750
817	23	0	37.100	3	0	1	3597.596000
818	47	1	26.125	1	1	2	23401.305750
819	33	1	35.530	0	1	3	55135.402090
820	45	0	33.700	1	0	1	7445.918000
821	26	0	17.670	0	0	3	2680.949300
822	18	1	31.130	0	0	0	1621.882700
823	44	1	29.810	2	0	0	8219.203900
824	60	0	24.320	0	0	3	12523.604800
825	64	1	31.825	2	0	2	16069.084750
826	56	0	31.790	2	1	0	43813.866100
827	36	0	28.025	1	1	2	20773.627750
828	41	0	30.780	3	1	2	39597.407200
829	39	0	21.850	1	0	3	6117.494500
830	63	0	33.100	0	0	1	13393.756000
831	36	1	25.840	0	0	3	5266.365600

	age	sex	bmi	children	smoker	region	charges
<b>832</b>	28	1	23.845	2	0	3	4719.736550
<b>833</b>	58	0	34.390	0	0	3	11743.934100
<b>834</b>	36	0	33.820	1	0	3	5377.457800
<b>835</b>	42	0	35.970	2	0	0	7160.330300
<b>836</b>	36	0	31.500	0	0	1	4402.233000
<b>837</b>	56	1	28.310	0	0	2	11657.718900
<b>838</b>	35	1	23.465	2	0	2	6402.291350
<b>839</b>	59	1	31.350	0	0	3	12622.179500
<b>840</b>	21	0	31.100	0	0	1	1526.312000
<b>841</b>	59	0	24.700	0	0	2	12323.936000
<b>842</b>	23	1	32.780	2	1	0	36021.011200
<b>843</b>	57	1	29.810	0	1	0	27533.912900
<b>844</b>	53	0	30.495	0	0	2	10072.055050
<b>845</b>	60	1	32.450	0	1	0	45008.955500
<b>846</b>	51	1	34.200	1	0	1	9872.701000
<b>847</b>	23	0	50.380	1	0	0	2438.055200
<b>848</b>	27	1	24.100	0	0	1	2974.126000
<b>849</b>	55	0	32.775	0	0	3	10601.632250
<b>850</b>	37	1	30.780	0	1	2	37270.151200
<b>851</b>	61	0	32.300	2	0	3	14119.620000
<b>852</b>	46	1	35.530	0	1	2	42111.664700
<b>853</b>	53	1	23.750	2	0	2	11729.679500
<b>854</b>	49	1	23.845	3	1	2	24106.912550
<b>855</b>	20	1	29.600	0	0	1	1875.344000
<b>856</b>	48	1	33.110	0	1	0	40974.164900
<b>857</b>	25	0	24.130	0	1	3	15817.985700

	age	sex	bmi	children	smoker	region	charges
<b>858</b>	25	1	32.230	1	0	0	18218.161390
<b>859</b>	57	0	28.100	0	0	1	10965.446000
<b>860</b>	37	1	47.600	2	1	1	46113.511000
<b>861</b>	38	1	28.000	3	0	1	7151.092000
<b>862</b>	55	1	33.535	2	0	3	12269.688650
<b>863</b>	36	1	19.855	0	0	2	5458.046450
<b>864</b>	51	0	25.400	0	0	1	8782.469000
<b>865</b>	40	0	29.900	2	0	1	6600.361000
<b>866</b>	18	0	37.290	0	0	0	1141.445100
<b>867</b>	57	0	43.700	1	0	1	11576.130000
<b>868</b>	61	0	23.655	0	0	2	13129.603450
<b>869</b>	25	1	24.300	3	0	1	4391.652000
<b>870</b>	50	0	36.200	0	0	1	8457.818000
<b>871</b>	26	1	29.480	1	0	0	3392.365200
<b>872</b>	42	0	24.860	0	0	0	5966.887400
<b>873</b>	43	0	30.100	1	0	1	6849.026000
<b>874</b>	44	0	21.850	3	0	2	8891.139500
<b>875</b>	23	1	28.120	0	0	3	2690.113800
<b>876</b>	49	1	27.100	1	0	1	26140.360300
<b>877</b>	33	0	33.440	5	0	0	6653.788600
<b>878</b>	41	0	28.800	1	0	1	6282.235000
<b>879</b>	37	1	29.500	2	0	1	6311.952000
<b>880</b>	22	0	34.800	3	0	1	3443.064000
<b>881</b>	23	0	27.360	1	0	3	2789.057400
<b>882</b>	21	1	22.135	0	0	2	2585.850650
<b>883</b>	51	1	37.050	3	1	2	46255.112500

	age	sex	bmi	children	smoker	region	charges
<b>884</b>	25	0	26.695	4	0	3	48777.981050
<b>885</b>	32	0	28.930	1	1	0	19719.694700
<b>886</b>	57	0	28.975	0	1	2	27218.437250
<b>887</b>	36	1	30.020	0	0	3	5272.175800
<b>888</b>	22	0	39.500	0	0	1	1682.597000
<b>889</b>	57	0	33.630	1	0	3	11945.132700
<b>890</b>	64	1	26.885	0	1	3	29330.983150
<b>891</b>	36	1	29.040	4	0	0	7243.813600
<b>892</b>	54	0	24.035	0	0	2	10422.916650
<b>893</b>	47	0	38.940	2	1	0	44202.653600
<b>894</b>	62	0	32.110	0	0	2	13555.004900
<b>895</b>	61	1	44.000	0	0	1	13063.883000
<b>896</b>	43	1	20.045	2	1	2	19798.054550
<b>897</b>	19	0	25.555	1	0	3	2221.564450
<b>898</b>	18	1	40.260	0	0	0	1634.573400
<b>899</b>	19	1	22.515	0	0	3	2117.338850
<b>900</b>	49	0	22.515	0	0	2	8688.858850
<b>901</b>	60	0	40.920	0	1	0	48673.558800
<b>902</b>	26	0	27.265	3	0	2	4661.286350
<b>903</b>	49	0	36.850	0	0	0	8125.784500
<b>904</b>	60	1	35.100	0	0	1	12644.589000
<b>905</b>	26	1	29.355	2	0	2	4564.191450
<b>906</b>	27	0	32.585	3	0	2	4846.920150
<b>907</b>	44	1	32.340	1	0	0	7633.720600
<b>908</b>	63	0	39.800	3	0	1	15170.069000
<b>909</b>	32	1	24.600	0	1	1	17496.306000

	age	sex	bmi	children	smoker	region	charges
910	22	0	28.310	1	0	3	2639.042900
911	18	0	31.730	0	1	2	33732.686700
912	59	1	26.695	3	0	3	14382.709050
913	44	1	27.500	1	0	1	7626.993000
914	33	0	24.605	2	0	3	5257.507950
915	24	1	33.990	0	0	0	2473.334100
916	43	1	26.885	0	1	3	21774.322150
917	45	0	22.895	0	1	2	35069.374520
918	61	1	28.200	0	0	1	13041.921000
919	35	1	34.210	1	0	0	5245.226900
920	62	1	25.000	0	0	1	13451.122000
921	62	1	33.200	0	0	1	13462.520000
922	38	0	31.000	1	0	1	5488.262000
923	34	0	35.815	0	0	3	4320.410850
924	43	0	23.200	0	0	1	6250.435000
925	50	0	32.110	2	0	2	25333.332840
926	19	1	23.400	2	0	1	2913.569000
927	57	1	20.100	1	0	1	12032.326000
928	62	1	39.160	0	0	0	13470.804400
929	41	0	34.210	1	0	0	6289.754900
930	26	0	46.530	1	0	0	2927.064700
931	39	1	32.500	1	0	1	6238.298000
932	46	0	25.800	5	0	1	10096.970000
933	45	1	35.300	0	0	1	7348.142000
934	32	0	37.180	2	0	0	4673.392200
935	59	1	27.500	0	0	1	12233.828000

	age	sex	bmi	children	smoker	region	charges
936	44	0	29.735	2	0	2	32108.662820
937	39	1	24.225	5	0	3	8965.795750
938	18	0	26.180	2	0	0	2304.002200
939	53	0	29.480	0	0	0	9487.644200
940	18	0	23.210	0	0	0	1121.873900
941	50	1	46.090	1	0	0	9549.565100
942	18	1	40.185	0	0	2	2217.469150
943	19	0	22.610	0	0	3	1628.470900
944	62	0	39.930	0	0	0	12982.874700
945	56	1	35.800	1	0	1	11674.130000
946	42	0	35.800	2	0	1	7160.094000
947	37	0	34.200	1	1	2	39047.285000
948	42	0	31.255	0	0	3	6358.776450
949	25	0	29.700	3	1	1	19933.458000
950	57	0	18.335	0	0	2	11534.872650
951	51	0	42.900	2	1	0	47462.894000
952	30	1	28.405	1	0	3	4527.182950
953	44	0	30.200	2	1	1	38998.546000
954	34	0	27.835	1	1	3	20009.633650
955	31	0	39.490	1	0	0	3875.734100
956	54	0	30.800	1	1	0	41999.520000
957	24	0	26.790	1	0	3	12609.887020
958	43	0	34.960	1	1	2	41034.221400
959	48	0	36.670	1	0	3	28468.919010
960	19	1	39.615	1	0	3	2730.107850
961	29	1	25.900	0	0	1	3353.284000

	age	sex	bmi	children	smoker	region	charges
962	63	1	35.200	1	0	0	14474.675000
963	46	0	24.795	3	0	2	9500.573050
964	52	0	36.765	2	0	3	26467.097370
965	35	0	27.100	1	0	1	4746.344000
966	51	0	24.795	2	1	3	23967.383050
967	44	0	25.365	1	0	3	7518.025350
968	21	0	25.745	2	0	2	3279.868550
969	39	1	34.320	5	0	0	8596.827800
970	50	1	28.160	3	0	0	10702.642400
971	34	1	23.560	0	0	2	4992.376400
972	22	1	20.235	0	0	3	2527.818650
973	19	1	40.500	0	0	1	1759.338000
974	26	0	35.420	0	0	0	2322.621800
975	29	0	22.895	0	1	2	16138.762050
976	48	0	40.150	0	0	0	7804.160500
977	26	0	29.150	1	0	0	2902.906500
978	45	1	39.995	3	0	2	9704.668050
979	36	1	29.920	0	0	0	4889.036800
980	54	0	25.460	1	0	2	25517.113630
981	34	0	21.375	0	0	2	4500.339250
982	31	0	25.900	3	1	1	19199.944000
983	27	1	30.590	1	0	2	16796.411940
984	20	0	30.115	5	0	2	4915.059850
985	44	1	25.800	1	0	1	7624.630000
986	43	0	30.115	3	0	3	8410.046850
987	45	1	27.645	1	0	3	28340.188850

	age	sex	bmi	children	smoker	region	charges
988	34	0	34.675	0	0	2	4518.826250
989	24	1	20.520	0	1	2	14571.890800
990	26	1	19.800	1	0	1	3378.910000
991	38	1	27.835	2	0	2	7144.862650
992	50	1	31.600	2	0	1	10118.424000
993	38	0	28.270	1	0	0	5484.467300
994	27	1	20.045	3	1	3	16420.494550
995	39	1	23.275	3	0	2	7986.475250
996	39	1	34.100	3	0	1	7418.522000
997	63	1	36.850	0	0	0	13887.968500
998	33	1	36.290	3	0	2	6551.750100
999	36	1	26.885	0	0	3	5267.818150
1000	30	0	22.990	2	1	3	17361.766100
1001	24	0	32.700	0	1	1	34472.841000
1002	24	0	25.800	0	0	1	1972.950000
1003	48	0	29.600	0	0	1	21232.182260
1004	47	0	19.190	1	0	2	8627.541100
1005	29	0	31.730	2	0	3	4433.387700
1006	28	0	29.260	2	0	2	4438.263400
1007	47	0	28.215	3	1	3	24915.220850
1008	25	0	24.985	2	0	2	23241.474530
1009	51	0	27.740	1	0	2	9957.721600
1010	48	1	22.800	0	0	1	8269.044000
1011	43	0	20.130	2	1	0	18767.737700
1012	61	1	33.330	4	0	0	36580.282160
1013	48	0	32.300	1	0	3	8765.249000

	age	sex	bmi	children	smoker	region	charges
<b>1014</b>	38	1	27.600	0	0	1	5383.536000
<b>1015</b>	59	0	25.460	0	0	3	12124.992400
<b>1016</b>	19	1	24.605	1	0	3	2709.243950
<b>1017</b>	26	1	34.200	2	0	1	3987.926000
<b>1018</b>	54	1	35.815	3	0	3	12495.290850
<b>1019</b>	21	1	32.680	2	0	3	26018.950520
<b>1020</b>	51	0	37.000	0	0	1	8798.593000
<b>1021</b>	22	1	31.020	3	1	0	35595.589800
<b>1022</b>	47	0	36.080	1	1	0	42211.138200
<b>1023</b>	18	0	23.320	1	0	0	1711.026800
<b>1024</b>	47	1	45.320	1	0	0	8569.861800
<b>1025</b>	21	1	34.600	0	0	1	2020.177000
<b>1026</b>	19	0	26.030	1	1	3	16450.894700
<b>1027</b>	23	0	18.715	0	0	3	21595.382290
<b>1028</b>	54	0	31.600	0	0	1	9850.432000
<b>1029</b>	37	1	17.290	2	0	2	6877.980100
<b>1030</b>	46	1	23.655	1	1	3	21677.283450
<b>1031</b>	55	1	35.200	0	1	0	44423.803000
<b>1032</b>	30	1	27.930	0	0	2	4137.522700
<b>1033</b>	18	0	21.565	0	1	2	13747.872350
<b>1034</b>	61	0	38.380	0	0	3	12950.071200
<b>1035</b>	54	1	23.000	3	0	1	12094.478000
<b>1036</b>	22	0	37.070	2	1	0	37484.449300
<b>1037</b>	45	1	30.495	1	1	3	39725.518050
<b>1038</b>	22	0	28.880	0	0	2	2250.835200
<b>1039</b>	19	0	27.265	2	0	3	22493.659640

	age	sex	bmi	children	smoker	region	charges
<b>1040</b>	35	1	28.025	0	1	3	20234.854750
<b>1041</b>	18	0	23.085	0	0	2	1704.700150
<b>1042</b>	20	0	30.685	0	1	2	33475.817150
<b>1043</b>	28	1	25.800	0	0	1	3161.454000
<b>1044</b>	55	0	35.245	1	0	2	11394.065550
<b>1045</b>	43	1	24.700	2	1	3	21880.820000
<b>1046</b>	43	1	25.080	0	0	2	7325.048200
<b>1047</b>	22	0	52.580	1	1	0	44501.398200
<b>1048</b>	25	1	22.515	1	0	3	3594.170850
<b>1049</b>	49	0	30.900	0	1	1	39727.614000
<b>1050</b>	44	1	36.955	1	0	3	8023.135450
<b>1051</b>	64	0	26.410	0	0	2	14394.557900
<b>1052</b>	49	0	29.830	1	0	2	9288.026700
<b>1053</b>	47	0	29.800	3	1	1	25309.489000
<b>1054</b>	27	1	21.470	0	0	3	3353.470300
<b>1055</b>	55	0	27.645	0	0	3	10594.501550
<b>1056</b>	48	1	28.900	0	0	1	8277.523000
<b>1057</b>	45	1	31.790	0	0	0	17929.303370
<b>1058</b>	24	1	39.490	0	0	0	2480.979100
<b>1059</b>	32	0	33.820	1	0	3	4462.721800
<b>1060</b>	24	0	32.010	0	0	0	1981.581900
<b>1061</b>	57	0	27.940	1	0	0	11554.223600
<b>1062</b>	59	0	41.140	1	1	0	48970.247600
<b>1063</b>	36	0	28.595	3	0	3	6548.195050
<b>1064</b>	29	1	25.600	4	0	1	5708.867000
<b>1065</b>	42	1	25.300	1	0	1	7045.499000

	age	sex	bmi	children	smoker	region	charges
<b>1066</b>	48	0	37.290	2	0	0	8978.185100
<b>1067</b>	39	0	42.655	0	0	2	5757.413450
<b>1068</b>	63	0	21.660	1	0	3	14349.854400
<b>1069</b>	54	1	31.900	1	0	0	10928.849000
<b>1070</b>	37	0	37.070	1	1	0	39871.704300
<b>1071</b>	63	0	31.445	0	0	2	13974.455550
<b>1072</b>	21	0	31.255	0	0	3	1909.527450
<b>1073</b>	54	1	28.880	2	0	2	12096.651200
<b>1074</b>	60	1	18.335	0	0	2	13204.285650
<b>1075</b>	32	1	29.590	1	0	0	4562.842100
<b>1076</b>	47	1	32.000	1	0	1	8551.347000
<b>1077</b>	21	0	26.030	0	0	2	2102.264700
<b>1078</b>	28	0	31.680	0	1	0	34672.147200
<b>1079</b>	63	0	33.660	3	0	0	15161.534400
<b>1080</b>	18	0	21.780	2	0	0	11884.048580
<b>1081</b>	32	0	27.835	1	0	3	4454.402650
<b>1082</b>	38	0	19.950	1	0	3	5855.902500
<b>1083</b>	32	0	31.500	1	0	1	4076.497000
<b>1084</b>	62	1	30.495	2	0	3	15019.760050
<b>1085</b>	39	1	18.300	5	1	1	19023.260000
<b>1086</b>	55	0	28.975	0	0	2	10796.350250
<b>1087</b>	57	0	31.540	0	0	3	11353.227600
<b>1088</b>	52	0	47.740	1	0	0	9748.910600
<b>1089</b>	56	0	22.100	0	0	1	10577.087000
<b>1090</b>	47	0	36.190	0	1	0	41676.081100
<b>1091</b>	55	1	29.830	0	0	2	11286.538700

	age	sex	bmi	children	smoker	region	charges
1092	23	0	32.700	3	0	1	3591.480000
1093	22	1	30.400	0	1	3	33907.548000
1094	50	1	33.700	4	0	1	11299.343000
1095	18	1	31.350	4	0	2	4561.188500
1096	51	1	34.960	2	1	2	44641.197400
1097	22	0	33.770	0	0	0	1674.632300
1098	52	1	30.875	0	0	2	23045.566160
1099	25	1	33.990	1	0	0	3227.121100
1100	33	1	19.095	2	1	2	16776.304050
1101	53	0	28.600	3	0	1	11253.421000
1102	29	0	38.940	1	0	0	3471.409600
1103	58	0	36.080	0	0	0	11363.283200
1104	37	0	29.800	0	0	1	20420.604650
1105	54	1	31.240	0	0	0	10338.931600
1106	49	1	29.925	0	0	3	8988.158750
1107	50	1	26.220	2	0	3	10493.945800
1108	26	0	30.000	1	0	1	2904.088000
1109	45	0	20.350	3	0	0	8605.361500
1110	54	1	32.300	1	0	2	11512.405000
1111	38	0	38.390	3	1	0	41949.244100
1112	48	1	25.850	3	1	0	24180.933500
1113	28	1	26.315	3	0	3	5312.169850
1114	23	0	24.510	0	0	2	2396.095900
1115	55	0	32.670	1	0	0	10807.486300
1116	41	0	29.640	5	0	2	9222.402600
1117	25	0	33.330	2	1	0	36124.573700

	age	sex	bmi	children	smoker	region	charges
<b>1118</b>	33	0	35.750	1	1	0	38282.749500
<b>1119</b>	30	1	19.950	3	0	3	5693.430500
<b>1120</b>	23	1	31.400	0	1	1	34166.273000
<b>1121</b>	46	0	38.170	2	0	0	8347.164300
<b>1122</b>	53	1	36.860	3	1	3	46661.442400
<b>1123</b>	27	1	32.395	1	0	2	18903.491410
<b>1124</b>	23	1	42.750	1	1	2	40904.199500
<b>1125</b>	63	1	25.080	0	0	3	14254.608200
<b>1126</b>	55	0	29.900	0	0	1	10214.636000
<b>1127</b>	35	1	35.860	2	0	0	5836.520400
<b>1128</b>	34	0	32.800	1	0	1	14358.364370
<b>1129</b>	19	1	18.600	0	0	1	1728.897000
<b>1130</b>	39	1	23.870	5	0	0	8582.302300
<b>1131</b>	27	0	45.900	2	0	1	3693.428000
<b>1132</b>	57	0	40.280	0	0	2	20709.020340
<b>1133</b>	52	1	18.335	0	0	3	9991.037650
<b>1134</b>	28	0	33.820	0	0	3	19673.335730
<b>1135</b>	50	1	28.120	3	0	3	11085.586800
<b>1136</b>	44	1	25.000	1	0	1	7623.518000
<b>1137</b>	26	1	22.230	0	0	3	3176.287700
<b>1138</b>	33	0	30.250	0	0	0	3704.354500
<b>1139</b>	19	1	32.490	0	1	3	36898.733080
<b>1140</b>	50	0	37.070	1	0	0	9048.027300
<b>1141</b>	41	1	32.600	3	0	1	7954.517000
<b>1142</b>	52	1	24.860	0	0	0	27117.993780
<b>1143</b>	39	0	32.340	2	0	0	6338.075600

	age	sex	bmi	children	smoker	region	charges
<b>1144</b>	50	0	32.300	2	0	1	9630.397000
<b>1145</b>	52	0	32.775	3	0	3	11289.109250
<b>1146</b>	60	0	32.800	0	1	1	52590.829390
<b>1147</b>	20	1	31.920	0	0	3	2261.568800
<b>1148</b>	55	0	21.500	1	0	1	10791.960000
<b>1149</b>	42	0	34.100	0	0	1	5979.731000
<b>1150</b>	18	1	30.305	0	0	2	2203.735950
<b>1151</b>	58	1	36.480	0	0	3	12235.839200
<b>1152</b>	43	1	32.560	3	1	0	40941.285400
<b>1153</b>	35	1	35.815	1	0	3	5630.457850
<b>1154</b>	48	1	27.930	4	0	3	11015.174700
<b>1155</b>	36	1	22.135	3	0	2	7228.215650
<b>1156</b>	19	0	44.880	0	1	0	39722.746200
<b>1157</b>	23	1	23.180	2	0	3	14426.073850
<b>1158</b>	20	1	30.590	0	0	2	2459.720100
<b>1159</b>	32	1	41.100	0	0	1	3989.841000
<b>1160</b>	43	1	34.580	1	0	3	7727.253200
<b>1161</b>	34	0	42.130	2	0	0	5124.188700
<b>1162</b>	30	0	38.830	1	0	0	18963.171920
<b>1163</b>	18	1	28.215	0	0	2	2200.830850
<b>1164</b>	41	1	28.310	1	0	3	7153.553900
<b>1165</b>	35	1	26.125	0	0	2	5227.988750
<b>1166</b>	57	0	40.370	0	0	0	10982.501300
<b>1167</b>	29	1	24.600	2	0	1	4529.477000
<b>1168</b>	32	0	35.200	2	0	1	4670.640000
<b>1169</b>	37	1	34.105	1	0	3	6112.352950

	age	sex	bmi	children	smoker	region	charges
<b>1170</b>	18	0	27.360	1	1	2	17178.682400
<b>1171</b>	43	1	26.700	2	1	1	22478.600000
<b>1172</b>	56	1	41.910	0	0	0	11093.622900
<b>1173</b>	38	0	29.260	2	0	3	6457.843400
<b>1174</b>	29	0	32.110	2	0	3	4433.915900
<b>1175</b>	22	1	27.100	0	0	1	2154.361000
<b>1176</b>	52	1	24.130	1	1	3	23887.662700
<b>1177</b>	40	1	27.400	1	0	1	6496.886000
<b>1178</b>	23	1	34.865	0	0	2	2899.489350
<b>1179</b>	31	0	29.810	0	1	0	19350.368900
<b>1180</b>	42	1	41.325	1	0	2	7650.773750
<b>1181</b>	24	1	29.925	0	0	3	2850.683750
<b>1182</b>	25	1	30.300	0	0	1	2632.992000
<b>1183</b>	48	1	27.360	1	0	2	9447.382400
<b>1184</b>	23	1	28.490	1	1	0	18328.238100
<b>1185</b>	45	0	23.560	2	0	2	8603.823400
<b>1186</b>	20	0	35.625	3	1	3	37465.343750
<b>1187</b>	62	1	32.680	0	0	3	13844.797200
<b>1188</b>	43	1	25.270	1	1	2	21771.342300
<b>1189</b>	23	1	28.000	0	0	1	13126.677450
<b>1190</b>	31	1	32.775	2	0	3	5327.400250
<b>1191</b>	41	1	21.755	1	0	2	13725.471840
<b>1192</b>	58	1	32.395	1	0	2	13019.161050
<b>1193</b>	48	1	36.575	0	0	3	8671.191250
<b>1194</b>	31	1	21.755	0	0	3	4134.082450
<b>1195</b>	19	1	27.930	3	0	3	18838.703660

	age	sex	bmi	children	smoker	region	charges
<b>1196</b>	19	1	30.020	0	1	3	33307.550800
<b>1197</b>	41	0	33.550	0	0	0	5699.837500
<b>1198</b>	40	0	29.355	1	0	3	6393.603450
<b>1199</b>	31	1	25.800	2	0	1	4934.705000
<b>1200</b>	37	0	24.320	2	0	3	6198.751800
<b>1201</b>	46	0	40.375	2	0	3	8733.229250
<b>1202</b>	22	0	32.110	0	0	3	2055.324900
<b>1203</b>	51	0	32.300	1	0	2	9964.060000
<b>1204</b>	18	1	27.280	3	1	0	18223.451200
<b>1205</b>	35	0	17.860	1	0	3	5116.500400
<b>1206</b>	59	1	34.800	2	0	1	36910.608030
<b>1207</b>	36	0	33.400	2	1	1	38415.474000
<b>1208</b>	37	1	25.555	1	1	2	20296.863450
<b>1209</b>	59	0	37.100	1	0	1	12347.172000
<b>1210</b>	36	0	30.875	1	0	3	5373.364250
<b>1211</b>	39	0	34.100	2	0	0	23563.016180
<b>1212</b>	18	0	21.470	0	0	2	1702.455300
<b>1213</b>	52	1	33.300	2	0	1	10806.839000
<b>1214</b>	27	1	31.255	1	0	3	3956.071450
<b>1215</b>	18	0	39.140	0	0	2	12890.057650
<b>1216</b>	40	0	25.080	0	0	0	5415.661200
<b>1217</b>	29	0	37.290	2	0	0	4058.116100
<b>1218</b>	46	1	34.600	1	1	1	41661.602000
<b>1219</b>	38	1	30.210	3	0	3	7537.163900
<b>1220</b>	30	1	21.945	1	0	2	4718.203550
<b>1221</b>	40	0	24.970	2	0	0	6593.508300

	age	sex	bmi	children	smoker	region	charges
1222	50	0	25.300	0	0	0	8442.667000
1223	20	1	24.420	0	1	0	26125.674770
1224	41	0	23.940	1	0	2	6858.479600
1225	33	1	39.820	1	0	0	4795.656800
1226	38	0	16.815	2	0	2	6640.544850
1227	42	0	37.180	2	0	0	7162.012200
1228	56	0	34.430	0	0	0	10594.225700
1229	58	0	30.305	0	0	2	11938.255950
1230	52	0	34.485	3	1	3	60021.398970
1231	20	1	21.800	0	1	1	20167.336030
1232	54	1	24.605	3	0	3	12479.708950
1233	58	0	23.300	0	0	1	11345.519000
1234	45	1	27.830	2	0	0	8515.758700
1235	26	0	31.065	0	0	3	2699.568350
1236	63	1	21.660	0	0	2	14449.854400
1237	58	1	28.215	0	0	3	12224.350850
1238	37	0	22.705	3	0	2	6985.506950
1239	25	1	42.130	1	0	0	3238.435700
1240	52	0	41.800	2	1	0	47269.854000
1241	64	0	36.960	2	1	0	49577.662400
1242	22	1	21.280	3	0	3	4296.271200
1243	28	1	33.110	0	0	0	3171.614900
1244	18	0	33.330	0	0	0	1135.940700
1245	28	0	24.300	5	0	1	5615.369000
1246	45	1	25.700	3	0	1	9101.798000
1247	33	0	29.400	4	0	1	6059.173000

	age	sex	bmi	children	smoker	region	charges
1248	18	1	39.820	0	0	0	1633.961800
1249	32	0	33.630	1	1	2	37607.527700
1250	24	0	29.830	0	1	2	18648.421700
1251	19	0	19.800	0	0	1	1241.565000
1252	20	0	27.300	0	1	1	16232.847000
1253	40	1	29.300	4	0	1	15828.821730
1254	34	1	27.720	0	0	0	4415.158800
1255	42	1	37.900	0	0	1	6474.013000
1256	51	1	36.385	3	0	3	11436.738150
1257	54	1	27.645	1	0	3	11305.934550
1258	55	0	37.715	3	0	3	30063.580550
1259	52	1	23.180	0	0	2	10197.772200
1260	32	1	20.520	0	0	2	4544.234800
1261	28	0	37.100	1	0	1	3277.161000
1262	41	1	28.050	1	0	0	6770.192500
1263	43	1	29.900	1	0	1	7337.748000
1264	49	1	33.345	2	0	2	10370.912550
1265	64	0	23.760	0	1	0	26926.514400
1266	55	1	30.500	0	0	1	10704.470000
1267	24	0	31.065	0	1	2	34254.053350
1268	20	1	33.300	0	0	1	1880.487000
1269	45	0	27.500	3	0	1	8615.300000
1270	26	0	33.915	1	0	3	3292.529850
1271	25	1	34.485	0	0	3	3021.809150
1272	43	0	25.520	5	0	0	14478.330150
1273	35	0	27.610	1	0	0	4747.052900

	age	sex	bmi	children	smoker	region	charges
<b>1274</b>	26	0	27.060	0	1	0	17043.341400
<b>1275</b>	57	0	23.700	0	0	1	10959.330000
<b>1276</b>	22	1	30.400	0	0	2	2741.948000
<b>1277</b>	32	1	29.735	0	0	3	4357.043650
<b>1278</b>	39	0	29.925	1	1	2	22462.043750
<b>1279</b>	25	1	26.790	2	0	3	4189.113100
<b>1280</b>	48	1	33.330	0	0	0	8283.680700
<b>1281</b>	47	1	27.645	2	1	3	24535.698550
<b>1282</b>	18	1	21.660	0	1	2	14283.459400
<b>1283</b>	18	0	30.030	1	0	0	1720.353700
<b>1284</b>	61	0	36.300	1	1	1	47403.880000
<b>1285</b>	47	1	24.320	0	0	2	8534.671800
<b>1286</b>	28	1	17.290	0	0	2	3732.625100
<b>1287</b>	36	1	25.900	1	0	1	5472.449000
<b>1288</b>	20	0	39.400	2	1	1	38344.566000
<b>1289</b>	44	0	34.320	1	0	0	7147.472800
<b>1290</b>	38	1	19.950	2	0	2	7133.902500
<b>1291</b>	19	0	34.900	0	1	1	34828.654000
<b>1292</b>	21	0	23.210	0	0	0	1515.344900
<b>1293</b>	46	0	25.745	3	0	3	9301.893550
<b>1294</b>	58	0	25.175	0	0	2	11931.125250
<b>1295</b>	20	0	22.000	1	0	1	1964.780000
<b>1296</b>	18	0	26.125	0	0	2	1708.925750
<b>1297</b>	28	1	26.510	2	0	0	4340.440900
<b>1298</b>	33	0	27.455	2	0	3	5261.469450
<b>1299</b>	19	1	25.745	1	0	3	2710.828550

	age	sex	bmi	children	smoker	region	charges
<b>1300</b>	45	0	30.360	0	1	0	62592.873090
<b>1301</b>	62	0	30.875	3	1	3	46718.163250
<b>1302</b>	25	1	20.800	1	0	1	3208.787000
<b>1303</b>	43	0	27.800	0	1	1	37829.724200
<b>1304</b>	42	0	24.605	2	1	2	21259.377950
<b>1305</b>	24	1	27.720	0	0	0	2464.618800
<b>1306</b>	29	1	21.850	0	1	2	16115.304500
<b>1307</b>	32	0	28.120	4	1	3	21472.478800
<b>1308</b>	25	1	30.200	0	1	1	33900.653000
<b>1309</b>	41	0	32.200	2	0	1	6875.961000
<b>1310</b>	42	0	26.315	1	0	3	6940.909850
<b>1311</b>	33	1	26.695	0	0	3	4571.413050
<b>1312</b>	34	0	42.900	1	0	1	4536.259000
<b>1313</b>	19	1	34.700	2	1	1	36397.576000
<b>1314</b>	30	1	23.655	3	1	3	18765.875450
<b>1315</b>	18	0	28.310	1	0	2	11272.331390
<b>1316</b>	19	1	20.600	0	0	1	1731.677000
<b>1317</b>	18	0	53.130	0	0	0	1163.462700
<b>1318</b>	35	0	39.710	4	0	2	19496.719170
<b>1319</b>	39	1	26.315	2	0	3	7201.700850
<b>1320</b>	31	0	31.065	3	0	3	5425.023350
<b>1321</b>	62	0	26.695	0	1	2	28101.333050
<b>1322</b>	62	0	38.830	0	0	0	12981.345700
<b>1323</b>	42	1	40.370	2	1	0	43896.376300
<b>1324</b>	31	0	25.935	1	0	3	4239.892650
<b>1325</b>	61	0	33.535	0	0	2	13143.336650

	age	sex	bmi	children	smoker	region	charges
1326	42	1	32.870	0	0	2	7050.021300
1327	51	0	30.030	1	0	0	9377.904700
1328	23	1	24.225	2	0	2	22395.744240
1329	52	0	38.600	2	0	1	10325.206000
1330	57	1	25.740	2	0	0	12629.165600
1331	23	1	33.400	0	0	1	10795.937330
1332	52	1	44.700	3	0	1	11411.685000
1333	50	0	30.970	3	0	3	10600.548300
1334	18	1	31.920	0	0	2	2205.980800
1335	18	1	36.850	0	0	0	1629.833500
1336	21	1	25.800	0	0	1	2007.945000
1337	61	1	29.070	0	1	3	29141.360300

```
In [42]: print('This DataFrame has %d Rows and %d Columns'%(df.shape))
```

This DataFrame has 1338 Rows and 7 Columns

```
In [43]: df.drop("charges",axis=1)
```

```
Out[43]:
```

	age	sex	bmi	children	smoker	region
0	19	1	27.900	0	1	1
1	18	0	33.770	1	0	0
2	28	0	33.000	3	0	0
3	33	0	22.705	0	0	3
4	32	0	28.880	0	0	3
5	31	1	25.740	0	0	0
6	46	1	33.440	1	0	0
7	37	1	27.740	3	0	3
8	37	0	29.830	2	0	2
9	60	1	25.840	0	0	3
10	25	0	26.220	0	0	2
11	62	1	26.290	0	1	0

```
In [44]: x=df[['age','sex','bmi','children','region']]  
x.columns=['age','sex','bmi','children','region']  
y=df[['smoker']]  
y.columns=['smoker']
```

```
In [45]: X = df[features].values  
y = df[target].values
```

```
In [46]: print('The features Has %d Rows And %d Columns(s)'%(x.shape))  
print('The Target has %d Rows And %d Columns(s)'%(np.array(y.shape).reshape(-1,1).shape))
```

The features Has 1338 Rows And 5 Columns(s)  
The Target has 1 Rows And 1 Columns(s)

# DECISION TREE

```
In [69]: from sklearn.model_selection import train_test_split  
from sklearn.tree import DecisionTreeClassifier
```

```
In [70]: x=["age","sex","bmi","children","region"]  
y=["Yes","No"]  
all_inputs=df[x]  
all_classes=df["smoker"]
```

```
In [71]: (x_train,x_test,y_train,y_test)=train_test_split(all_inputs,all_classes,test_size=0.2)
```

```
In [72]: clf=DecisionTreeClassifier(random_state=0)
```

```
In [73]: clf.fit(x_train,y_train)
```

Out[73]: DecisionTreeClassifier(random\_state=0)

In a Jupyter environment, please rerun this cell to show the HTML representation or trust the notebook.

On GitHub, the HTML representation is unable to render, please try loading this page with nbviewer.org.

```
In [74]: score=clf.score(x_test,y_test)  
print(score)
```

0.6902985074626866

# Random forest

```
In [75]: import matplotlib.pyplot as plt,seaborn as sns
```

```
In [77]: x=df.drop('smoker',axis=1)
y=df['smoker']
```

```
In [78]: from sklearn.model_selection import train_test_split
x_train,x_test,y_train,y_test=train_test_split(x,y,train_size=0.7,random_state=42)
x_train.shape,x_test.shape
```

```
Out[78]: ((936, 6), (402, 6))
```

```
In [79]: from sklearn.ensemble import RandomForestClassifier
rfc = RandomForestClassifier()
rfc.fit(x_train,y_train)
```

```
Out[79]: RandomForestClassifier()
```

In a Jupyter environment, please rerun this cell to show the HTML representation or trust the notebook.  
On GitHub, the HTML representation is unable to render, please try loading this page with nbviewer.org.

```
In [82]: rf = RandomForestClassifier()
```

```
In [83]: params = {'max_depth': [2,3,5,10,20],
'min_samples_leaf': [5,10,20,50,100,200],
'n_estimators': [10,25,30,50,100,200]}
```

```
In [87]: from sklearn.model_selection import GridSearchCV
grid_search = GridSearchCV(estimator=rf, param_grid=params, cv = 2, scoring='accuracy')
grid_search.fit(x_train,y_train)
```

```
Out[87]: GridSearchCV(cv=2, estimator=RandomForestClassifier(),
param_grid={'max_depth': [2, 3, 5, 10, 20],
'min_samples_leaf': [5, 10, 20, 50, 100, 200],
'n_estimators': [10, 25, 30, 50, 100, 200]}, scoring='accuracy')
```

In a Jupyter environment, please rerun this cell to show the HTML representation or trust the notebook.  
On GitHub, the HTML representation is unable to render, please try loading this page with nbviewer.org.

```
In [85]: grid_search.best_score_
```

```
Out[85]: 0.9508547008547008
```

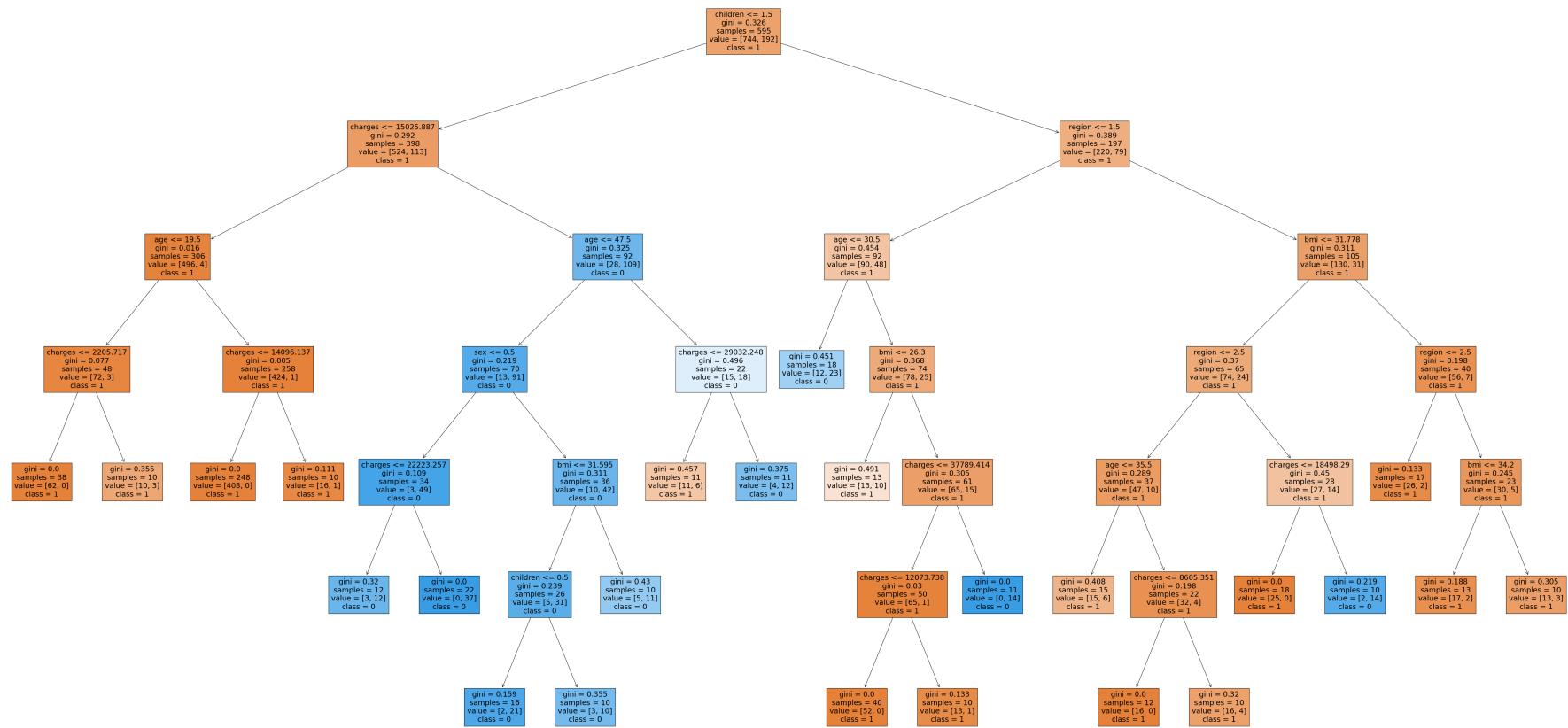
```
In [86]: rf_best = grid_search.best_estimator_
print(rf_best)
```

```
RandomForestClassifier(max_depth=10, min_samples_leaf=10, n_estimators=25)
```

```
In [88]: from sklearn.tree import plot_tree  
plt.figure(figsize=(80,40))  
plot_tree(rf_best.estimators_[5],feature_names=x.columns,class_names=["1","0"],filled=True)
```

```
Out[88]: [Text(0.4714285714285714, 0.9285714285714286, 'children <= 1.5\ngini = 0.326\nsamples = 595\nvalue = [744, 192]\nclass = 1'),  
Text(0.25, 0.7857142857142857, 'charges <= 15025.887\ngini = 0.292\nsamples = 398\nvalue = [524, 113]\nclass = 1'),  
Text(0.11428571428571428, 0.6428571428571429, 'age <= 19.5\ngini = 0.016\nsamples = 306\nvalue = [496, 4]\nclass = 1'),  
Text(0.05714285714285714, 0.5, 'charges <= 2205.717\ngini = 0.077\nsamples = 48\nvalue = [72, 3]\nclass = 1'),  
Text(0.02857142857142857, 0.35714285714285715, 'gini = 0.0\nsamples = 38\nvalue = [62, 0]\nclass = 1'),  
Text(0.08571428571428572, 0.35714285714285715, 'gini = 0.355\nsamples = 10\nvalue = [10, 3]\nclass = 1'),  
Text(0.17142857142857143, 0.5, 'charges <= 14096.137\ngini = 0.005\nsamples = 258\nvalue = [424, 1]\nclass = 1'),  
Text(0.14285714285714285, 0.35714285714285715, 'gini = 0.0\nsamples = 248\nvalue = [408, 0]\nclass = 1'),  
Text(0.2, 0.35714285714285715, 'gini = 0.111\nsamples = 10\nvalue = [16, 1]\nclass = 1'),  
Text(0.38571428571428573, 0.6428571428571429, 'age <= 47.5\ngini = 0.325\nsamples = 92\nvalue = [28, 109]\nclass = 0'),  
Text(0.3142857142857143, 0.5, 'sex <= 0.5\ngini = 0.219\nsamples = 70\nvalue = [13, 91]\nclass = 0'),  
Text(0.2571428571428571, 0.35714285714285715, 'charges <= 22223.257\ngini = 0.109\nsamples = 34\nvalue = [3, 49]\nclass = 0'),  
Text(0.22857142857142856, 0.21428571428571427, 'gini = 0.32\nsamples = 12\nvalue = [3, 12]\nclass = 0'),  
Text(0.2857142857142857, 0.21428571428571427, 'gini = 0.0\nsamples = 22\nvalue = [0, 37]\nclass = 0'),  
Text(0.37142857142857144, 0.35714285714285715, 'bmi <= 31.595\ngini = 0.311\nsamples = 36\nvalue = [10, 42]\nclass = 0'),  
Text(0.34285714285714286, 0.21428571428571427, 'children <= 0.5\ngini = 0.239\nsamples = 26\nvalue = [5, 31]\nclass = 0'),  
Text(0.3142857142857143, 0.07142857142857142, 'gini = 0.159\nsamples = 16\nvalue = [2, 21]\nclass = 0'),  
Text(0.37142857142857144, 0.07142857142857142, 'gini = 0.355\nsamples = 10\nvalue = [3, 10]\nclass = 0'),  
Text(0.4, 0.21428571428571427, 'gini = 0.43\nsamples = 10\nvalue = [5, 11]\nclass = 0'),  
Text(0.45714285714285713, 0.5, 'charges <= 29032.248\ngini = 0.496\nsamples = 22\nvalue = [15, 18]\nclass = 0'),  
Text(0.42857142857142855, 0.35714285714285715, 'gini = 0.457\nsamples = 11\nvalue = [11, 6]\nclass = 1'),  
Text(0.4857142857142857, 0.35714285714285715, 'gini = 0.375\nsamples = 11\nvalue = [4, 12]\nclass = 0'),  
Text(0.6928571428571428, 0.7857142857142857, 'region <= 1.5\ngini = 0.389\nsamples = 197\nvalue = [220, 79]\nclass = 1'),  
Text(0.5428571428571428, 0.6428571428571429, 'age <= 30.5\ngini = 0.454\nsamples = 92\nvalue = [90, 48]\nclass = 1'),  
Text(0.5142857142857142, 0.5, 'gini = 0.451\nsamples = 18\nvalue = [12, 23]\nclass = 0'),  
Text(0.5714285714285714, 0.5, 'bmi <= 26.3\ngini = 0.368\nsamples = 74\nvalue = [78, 25]\nclass = 1'),  
Text(0.5428571428571428, 0.35714285714285715, 'gini = 0.491\nsamples = 13\nvalue = [13, 10]\nclass = 1'),  
Text(0.6, 0.35714285714285715, 'charges <= 37789.414\ngini = 0.305\nsamples = 61\nvalue = [65, 15]\nclass = 1'),  
Text(0.5714285714285714, 0.21428571428571427, 'charges <= 12073.738\ngini = 0.03\nsamples = 50\nvalue = [65, 1]\nclass = 1'),  
Text(0.5428571428571428, 0.07142857142857142, 'gini = 0.0\nsamples = 40\nvalue = [52, 0]\nclass = 1'),  
Text(0.6, 0.07142857142857142, 'gini = 0.133\nsamples = 10\nvalue = [13, 1]\nclass = 1'),  
Text(0.6285714285714286, 0.21428571428571427, 'gini = 0.0\nsamples = 11\nvalue = [0, 14]\nclass = 0'),
```

```
Text(0.8428571428571429, 0.6428571428571429, 'bmi <= 31.778\n\tgini = 0.311\n\tsamples = 105\n\tvalue = [130, 31]\n\tclass = 1'),
Text(0.7714285714285715, 0.5, 'region <= 2.5\n\tgini = 0.37\n\tsamples = 65\n\tvalue = [74, 24]\n\tclass = 1'),
Text(0.7142857142857143, 0.35714285714285715, 'age <= 35.5\n\tgini = 0.289\n\tsamples = 37\n\tvalue = [47, 10]\n\tclass = 1'),
Text(0.6857142857142857, 0.21428571428571427, 'gini = 0.408\n\tsamples = 15\n\tvalue = [15, 6]\n\tclass = 1'),
Text(0.7428571428571429, 0.21428571428571427, 'charges <= 8605.351\n\tgini = 0.198\n\tsamples = 22\n\tvalue = [32, 4]\n\tclass = 1'),
Text(0.7142857142857143, 0.07142857142857142, 'gini = 0.0\n\tsamples = 12\n\tvalue = [16, 0]\n\tclass = 1'),
Text(0.7714285714285715, 0.07142857142857142, 'gini = 0.32\n\tsamples = 10\n\tvalue = [16, 4]\n\tclass = 1'),
Text(0.8285714285714286, 0.35714285714285715, 'charges <= 18498.29\n\tgini = 0.45\n\tsamples = 28\n\tvalue = [27, 14]\n\tclass = 1'),
Text(0.8, 0.21428571428571427, 'gini = 0.0\n\tsamples = 18\n\tvalue = [25, 0]\n\tclass = 1'),
Text(0.8571428571428571, 0.21428571428571427, 'gini = 0.219\n\tsamples = 10\n\tvalue = [2, 14]\n\tclass = 0'),
Text(0.9142857142857143, 0.5, 'region <= 2.5\n\tgini = 0.198\n\tsamples = 40\n\tvalue = [56, 7]\n\tclass = 1'),
Text(0.8857142857142857, 0.35714285714285715, 'gini = 0.133\n\tsamples = 17\n\tvalue = [26, 2]\n\tclass = 1'),
Text(0.9428571428571428, 0.35714285714285715, 'bmi <= 34.2\n\tgini = 0.245\n\tsamples = 23\n\tvalue = [30, 5]\n\tclass = 1'),
Text(0.9142857142857143, 0.21428571428571427, 'gini = 0.188\n\tsamples = 13\n\tvalue = [17, 2]\n\tclass = 1'),
Text(0.9714285714285714, 0.21428571428571427, 'gini = 0.305\n\tsamples = 10\n\tvalue = [13, 3]\n\tclass = 1'])
```



```
In [90]: print(rfc.score(x_test,y_test))
```

0.972636815920398

## Model saving for all the models

## Linear Regression

```
In [91]: import pickle  
fname="y_pred"  
pickle.dump=lr,open(fname, 'wb')
```

```
In [95]: import pickle  
fname="y_pred"  
pickle.dump=open(fname, 'wb')
```

## Conclusion

```
In [ ]: By observing all the methods,logistic regression has highest accuracy.Therefore we can say that logistic regression is fit method for the insurance data set.
```