

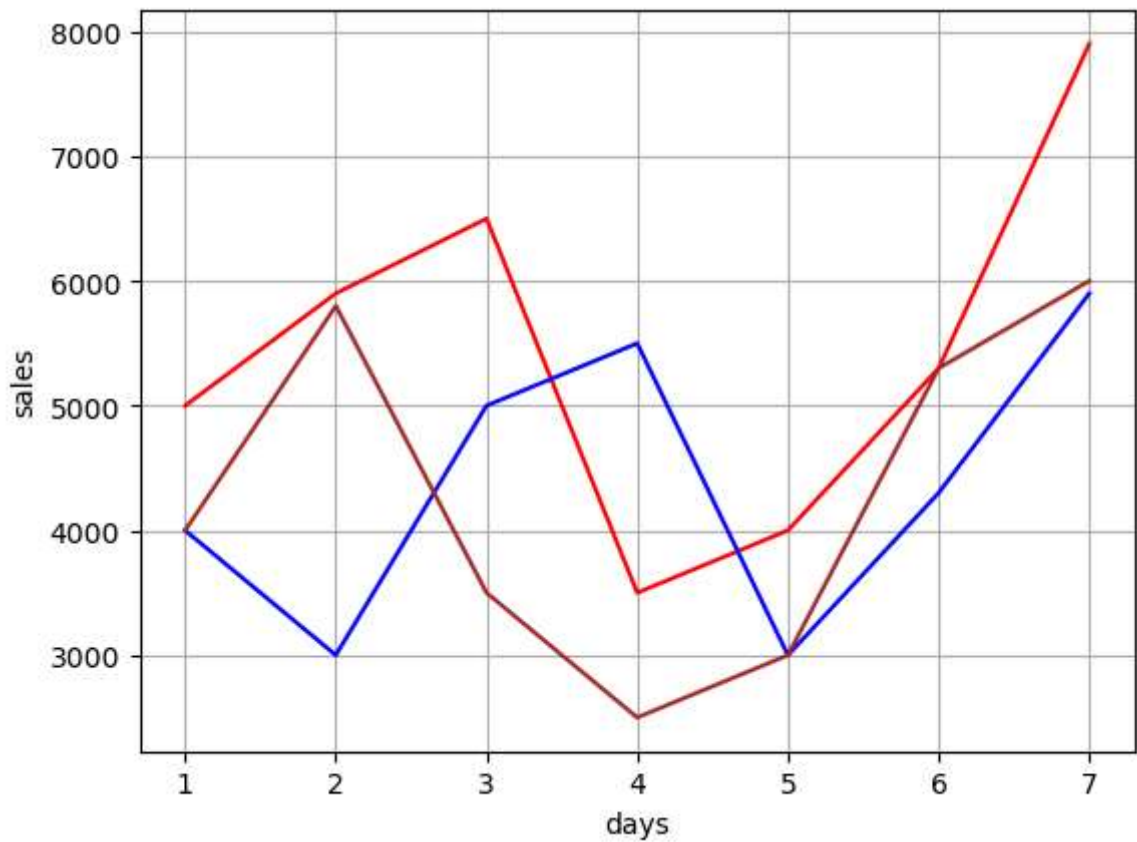
In [3]:

```
1 import numpy as np
2 import pandas as pd
3 import matplotlib.pyplot as plt
4 import seaborn as sns
5
6 data_set = {
7     'days': [1, 2, 3, 4, 5, 6, 7],
8     'week1': [5000, 5900, 6500, 3500, 4000, 5300, 7900],
9     'week2': [4000, 3000, 5000, 5500, 3000, 4300, 5900],
10    'week3': [4000, 5800, 3500, 2500, 3000, 5300, 6000]
11 }
12 df=pd.DataFrame(data_set)
13 df.head()
```

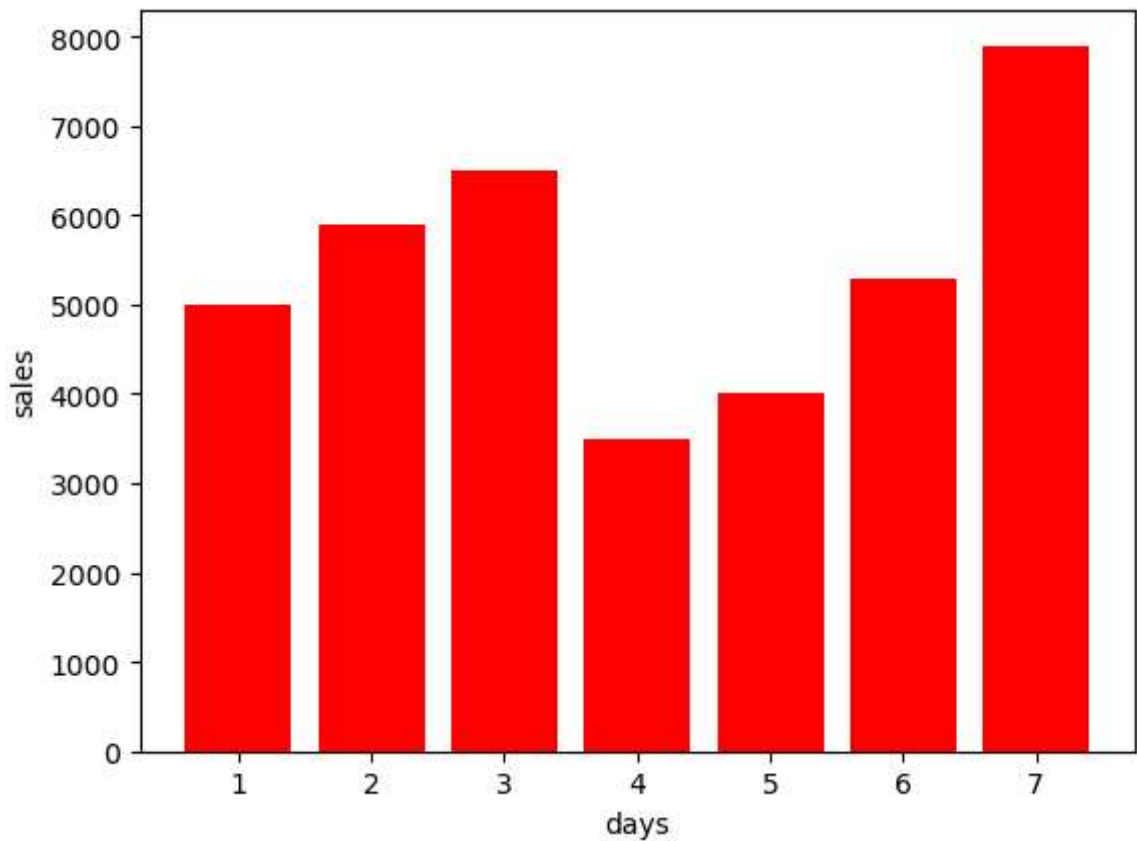
Out[3]:

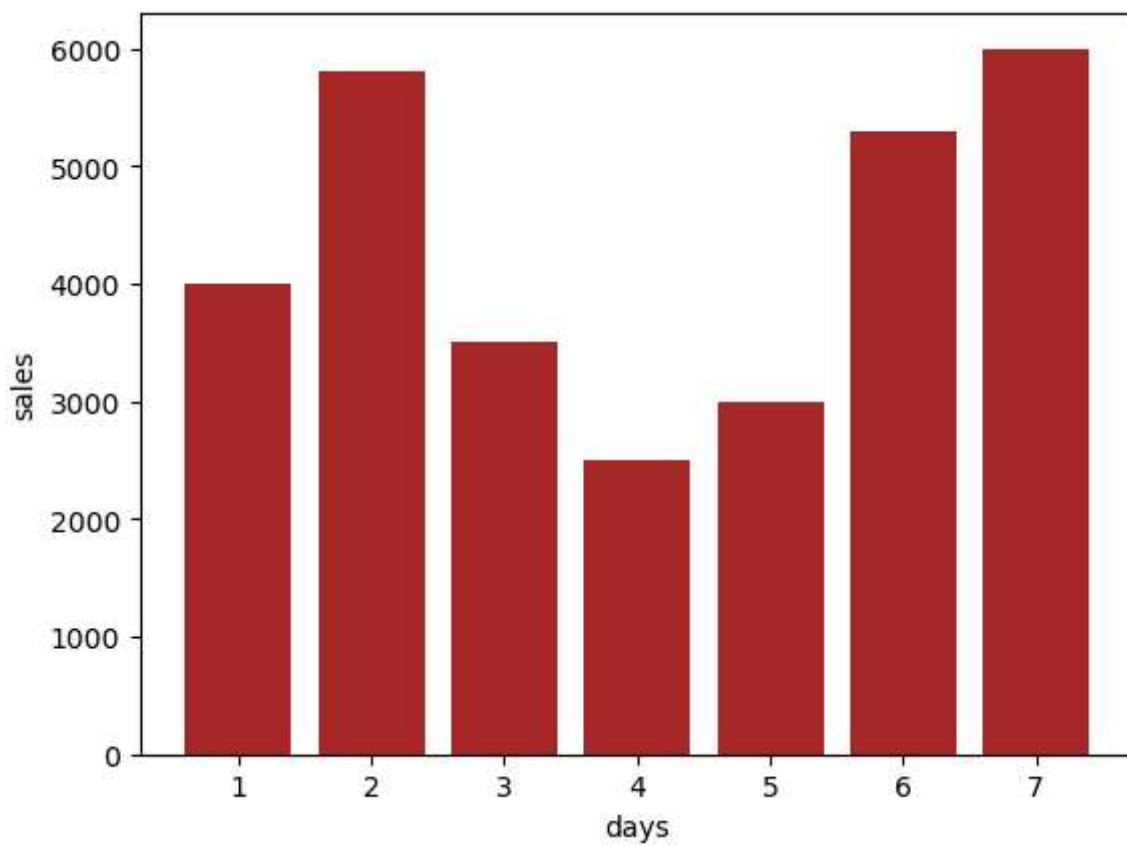
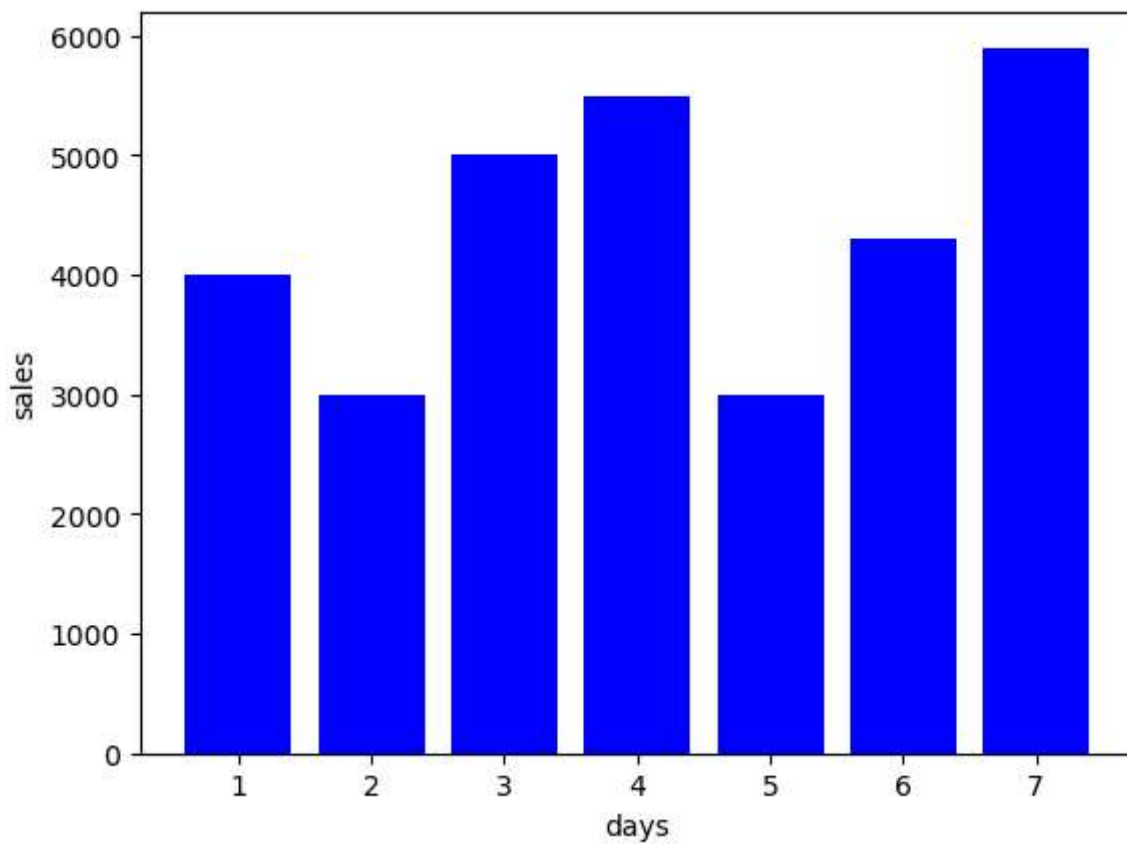
	days	week1	week2	week3
0	1	5000	4000	4000
1	2	5900	3000	5800
2	3	6500	5000	3500
3	4	3500	5500	2500
4	5	4000	3000	3000

```
In [24]: 1 import matplotlib.pyplot as plt
2 colors= {
3     'week1':'red',
4     'week2':'blue',
5     'week3':'brown'
6 }
7 for week in ['week1','week2','week3']:
8     plt.plot(df['days'],df[week],color=colors[week])
9 plt.xlabel("days")
10 plt.ylabel("sales")
11 plt.grid(True)
12 plt.show()
13
```

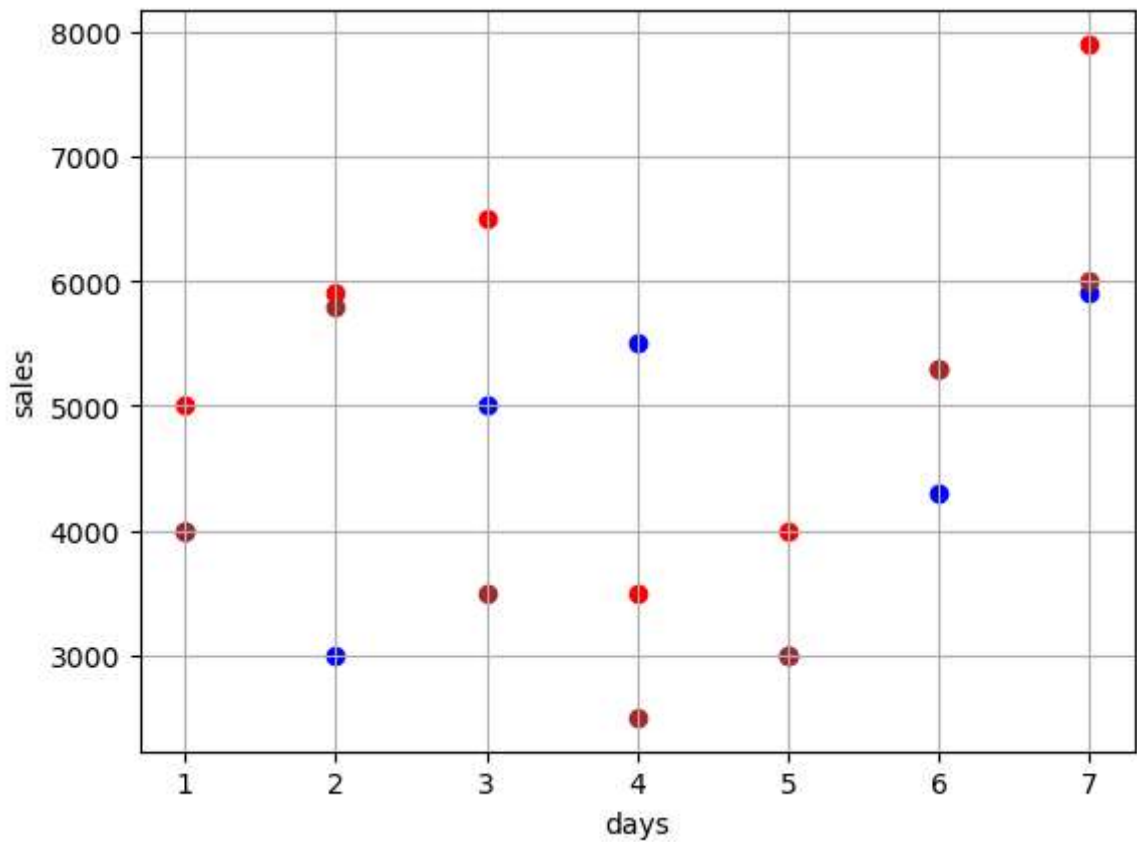


```
In [15]: 1 import matplotlib.pyplot as plt
2 colors= {
3     'week1':'red',
4     'week2':'blue',
5     'week3':'brown'
6 }
7 for week in ['week1','week2','week3']:
8     plt.bar(df['days'],df[week],color=colors[week])
9     plt.xlabel("days")
10    plt.ylabel("sales")
11    plt.show()
12
```

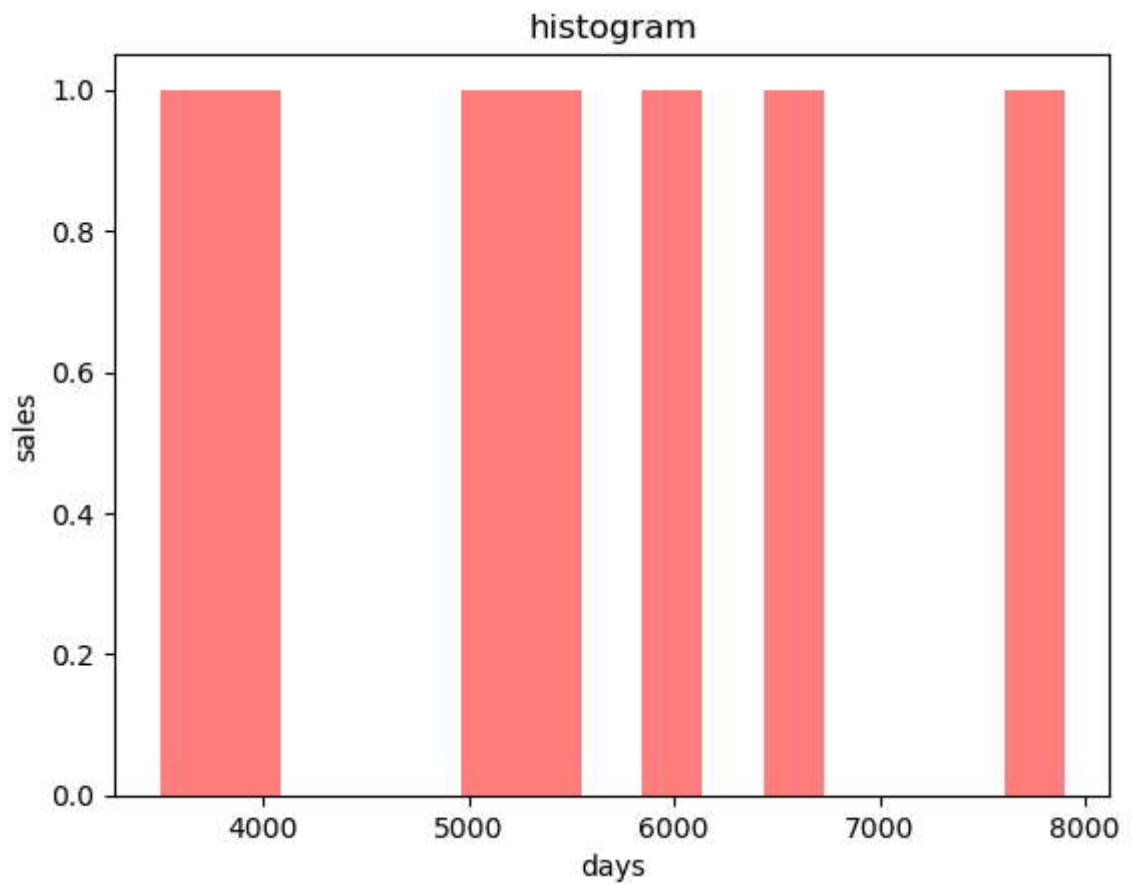


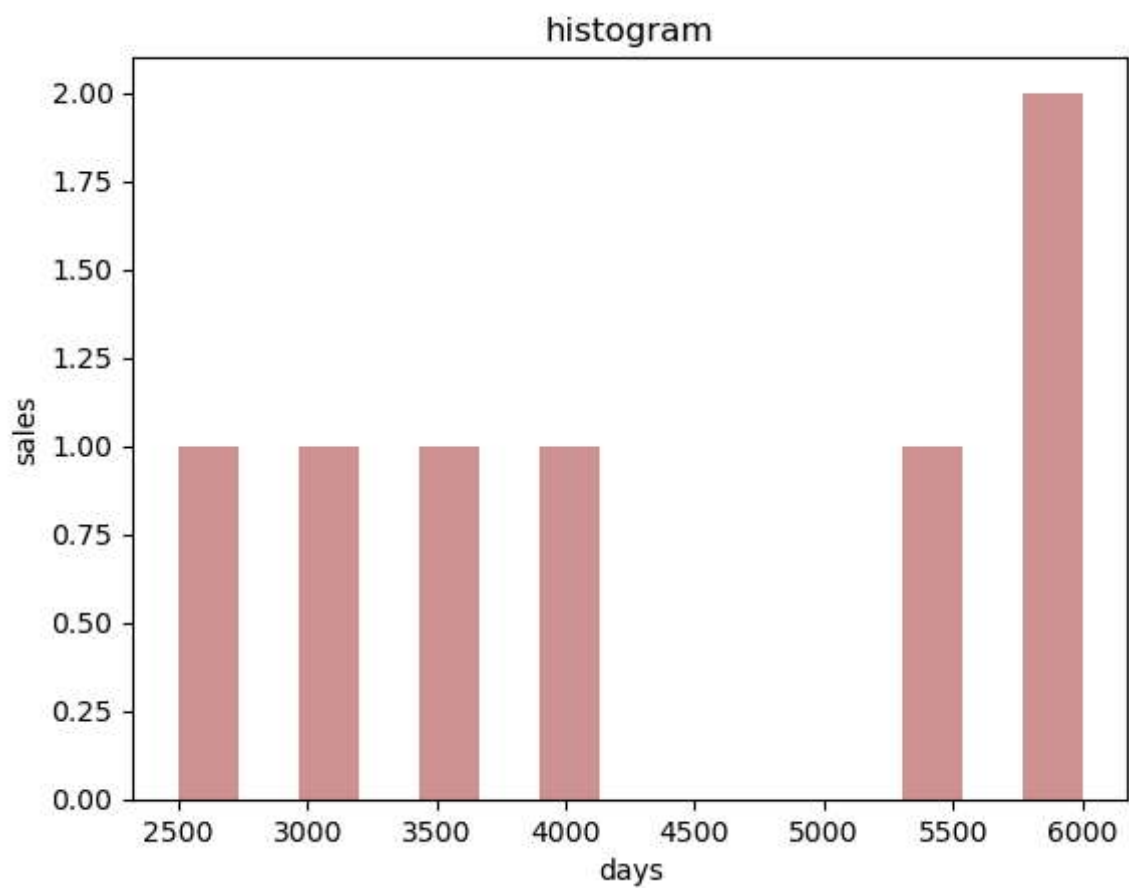
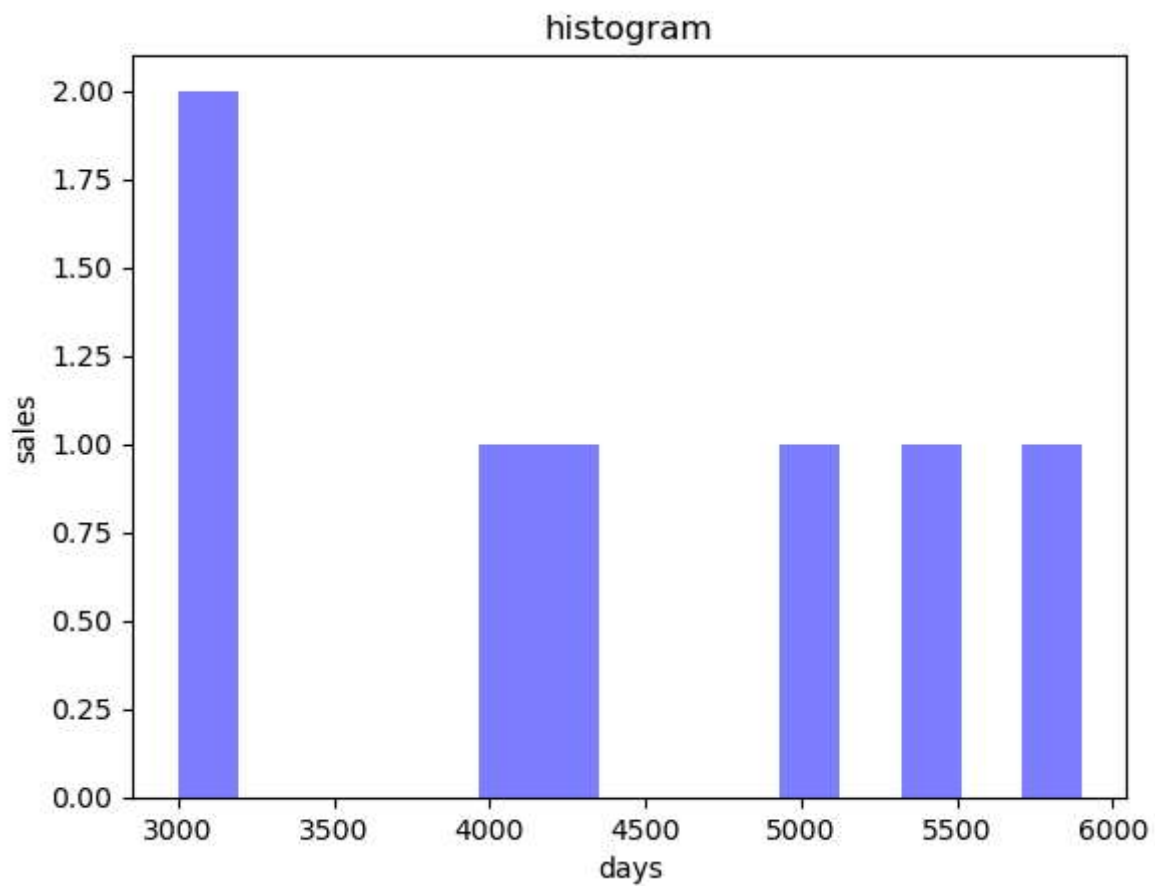


```
In [25]: 1 import matplotlib.pyplot as plt
2 colors= {
3     'week1':'red',
4     'week2':'blue',
5     'week3':'brown'
6 }
7 for week in ['week1','week2','week3']:
8     plt.scatter(df['days'],df[week],color=colors[week])
9 plt.xlabel("days")
10 plt.ylabel("sales")
11 plt.grid(True)
12 plt.show()
13
```



```
In [23]: 1 import matplotlib.pyplot as plt
2 colors= {
3     'week1':'red',
4     'week2':'blue',
5     'week3':'brown'
6 }
7 for week in ['week1','week2','week3']:
8     plt.hist(df[week],alpha = 0.5,bins=15,color=colors[week])
9     plt.xlabel("days")
10    plt.ylabel("sales")
11    plt.title("histogram")
12    plt.show()
13
```





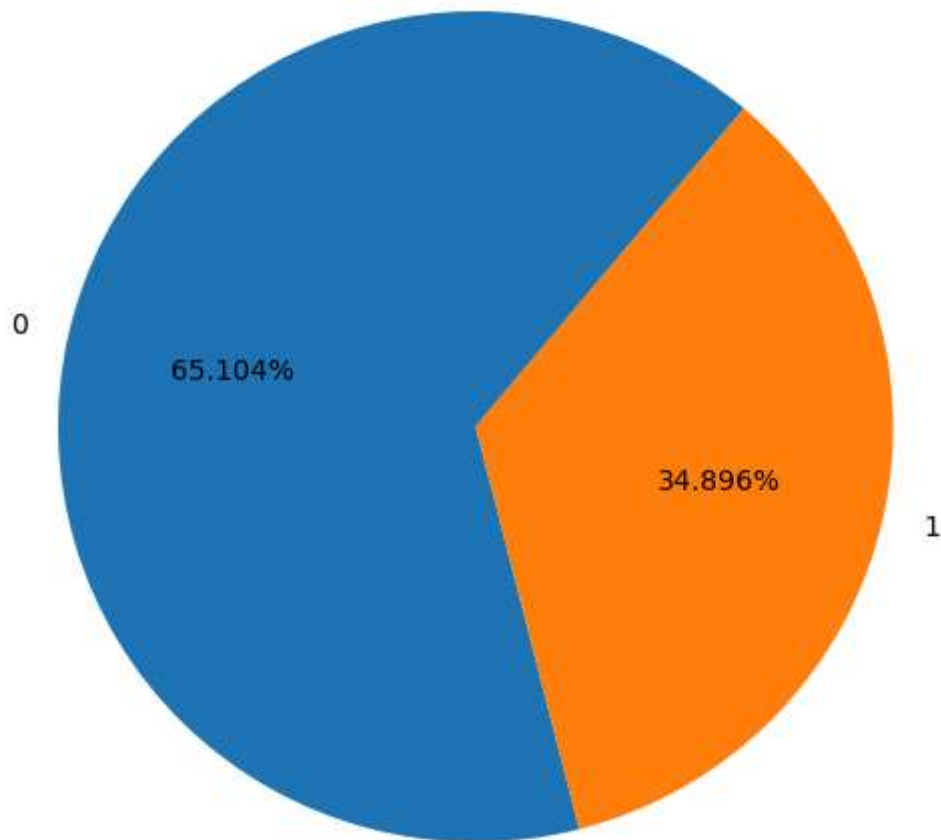
```
In [31]: 1 data=pd.read_csv('diabetes.csv')
          2 data.head()
```

```
Out[31]:
```

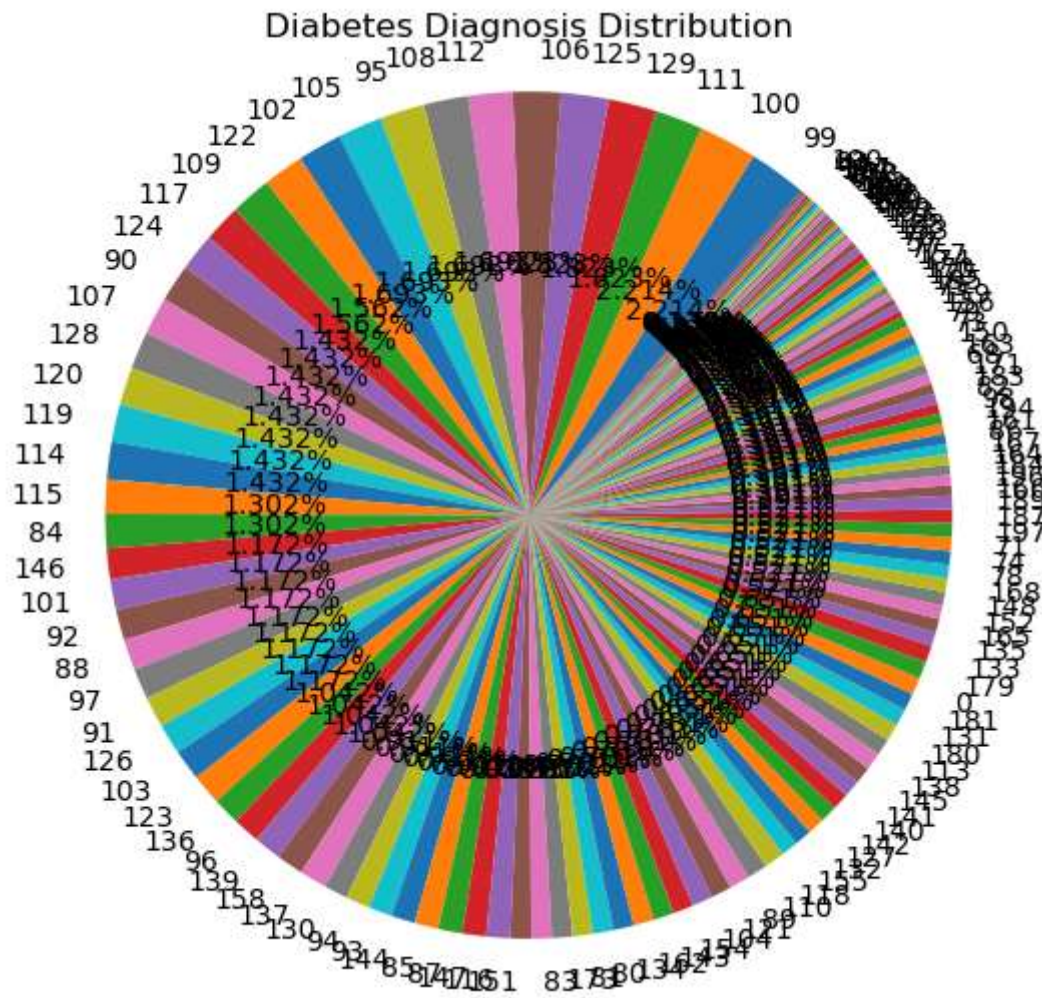
	Pregnancies	Glucose	BloodPressure	SkinThickness	Insulin	BMI	DiabetesPedigreeFunction
0	6	148	72	35	0	33.6	0.627
1	1	85	66	29	0	26.6	0.351
2	8	183	64	0	0	23.3	0.672
3	1	89	66	23	94	28.1	0.167
4	0	137	40	35	168	43.1	2.288

```
In [56]: 1 df = pd.DataFrame(data)
          2
          3 diabetes_counts = df['Outcome'].value_counts()
          4 plt.figure(figsize=(6, 6))
          5 plt.pie(diabetes_counts, labels=diabetes_counts.index, autopct='%1.3f%%',
          6 plt.title('Diabetes Diagnosis Distribution')
          7 plt.axis('equal')
          8 plt.show()
```

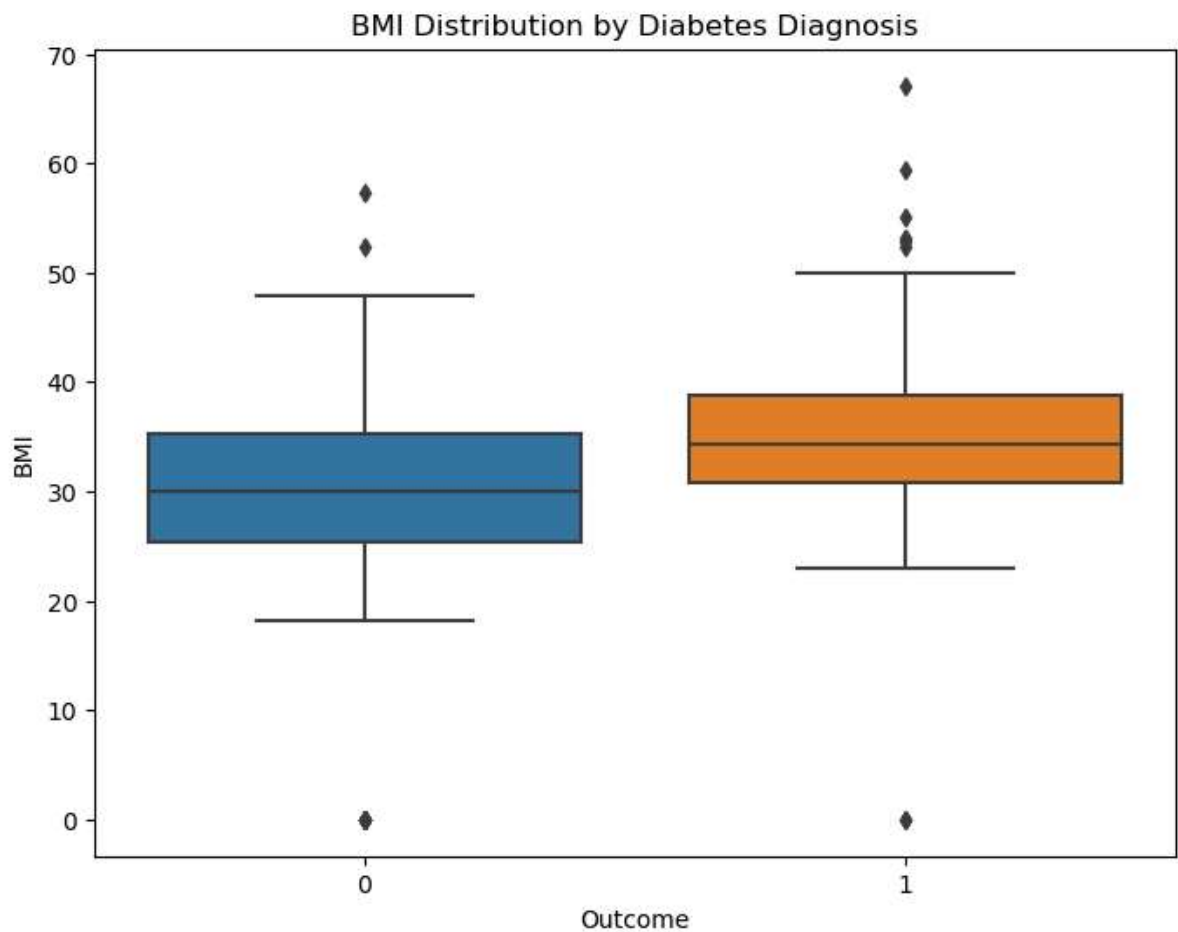
Diabetes Diagnosis Distribution



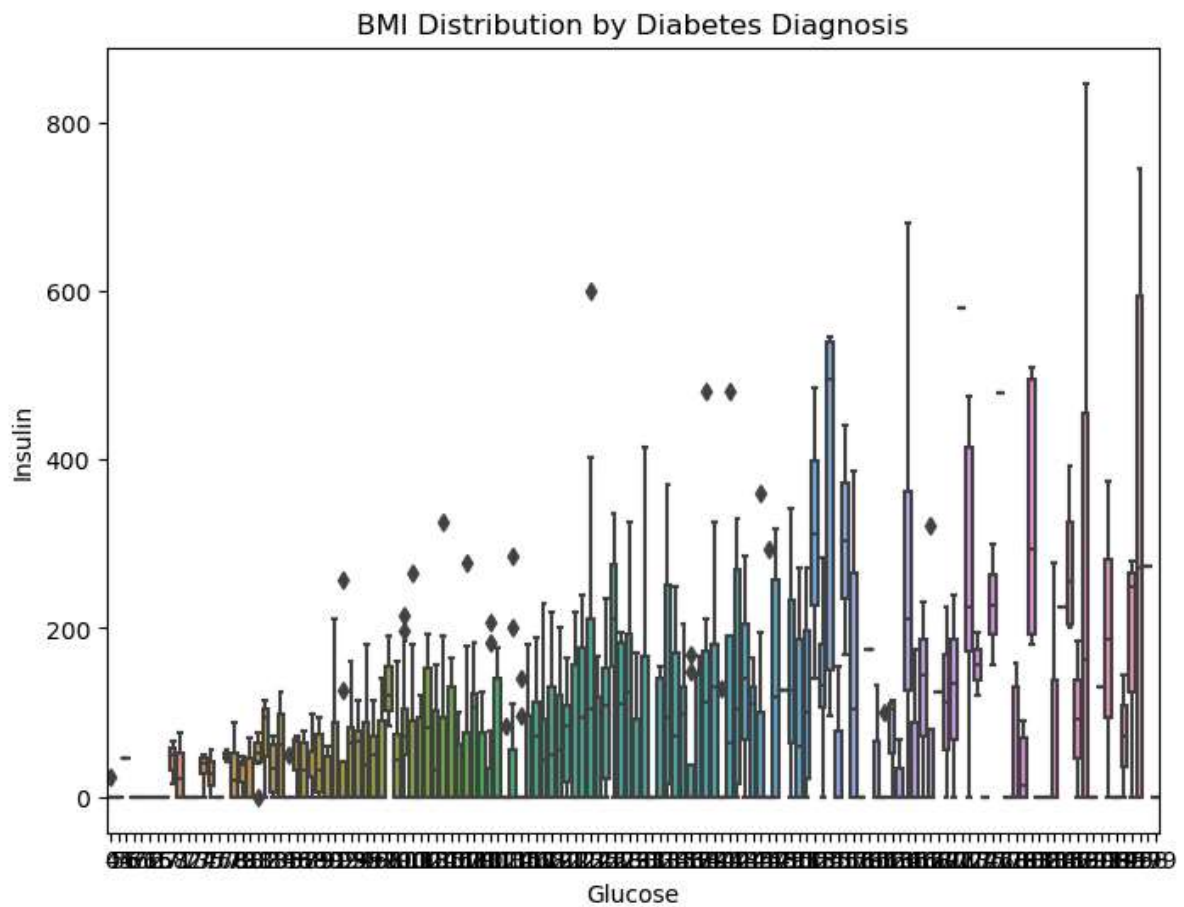

```
1 diabetes_counts = df['Glucose'].value_counts()
2 plt.figure(figsize=(6, 6))
3 plt.pie(diabetes_counts, labels=diabetes_counts.index, autopct='%1.3f%%',
4 plt.title('Diabetes Diagnosis Distribution')
5 plt.axis('equal')
6 plt.show()
```



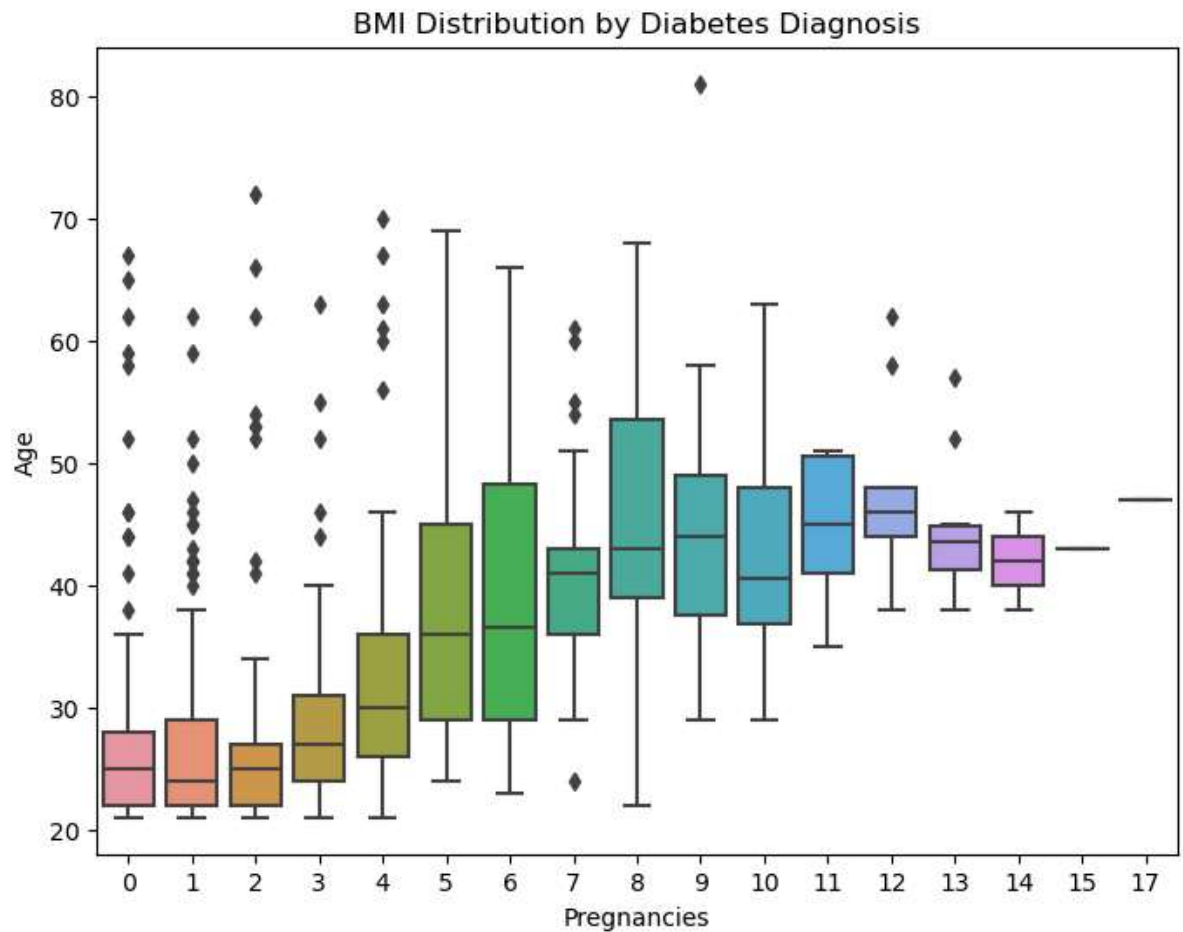
```
In [44]: 1 plt.figure(figsize=(8, 6))
2 sns.boxplot(x='Outcome', y='BMI', data=data)
3 plt.title('BMI Distribution by Diabetes Diagnosis')
4 plt.show()
```



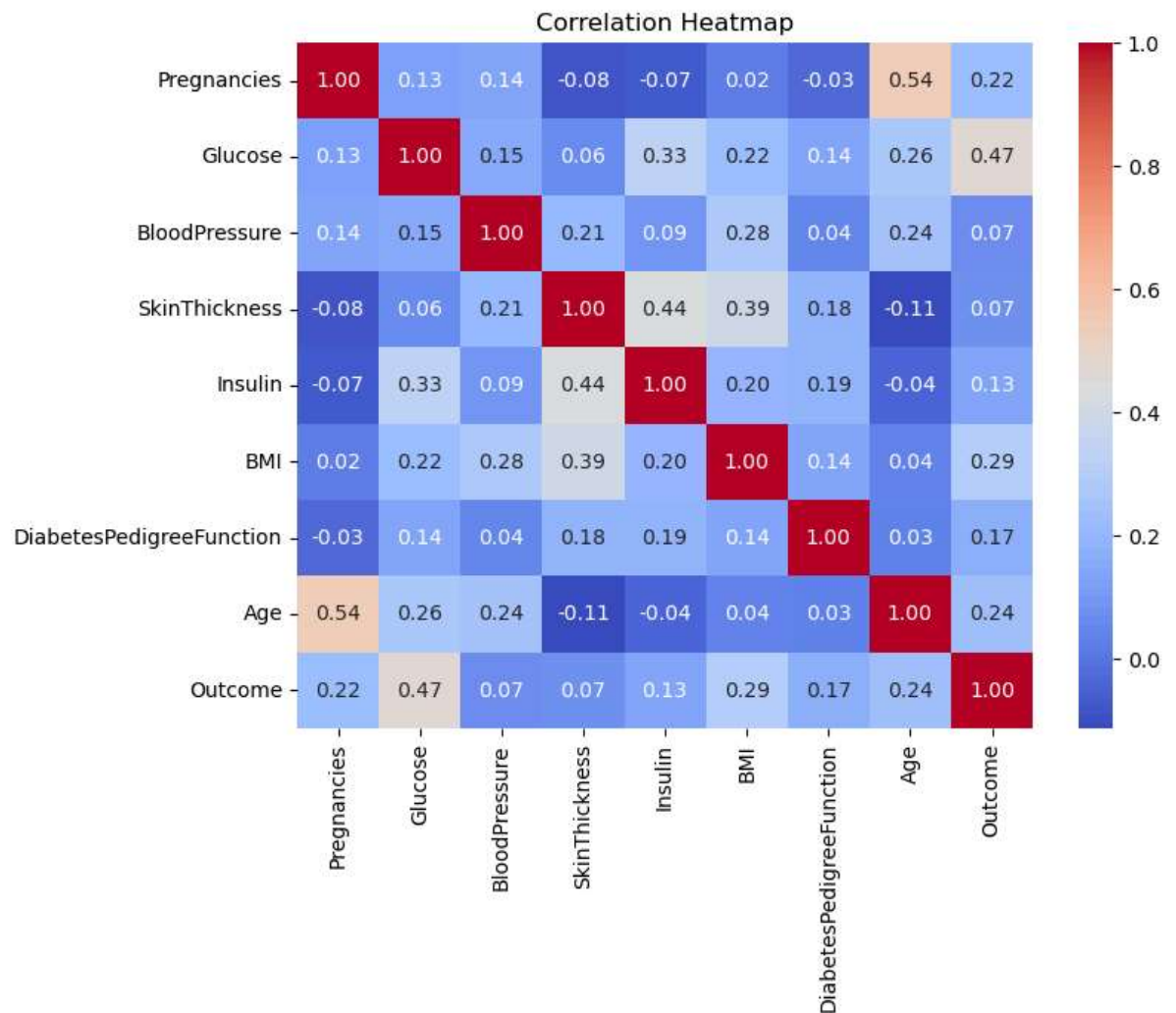
```
In [46]: 1 plt.figure(figsize=(8, 6))
2 sns.boxplot(x='Glucose', y='Insulin', data=data)
3 plt.title('BMI Distribution by Diabetes Diagnosis')
4 plt.show()
```



```
In [45]: 1 plt.figure(figsize=(8, 6))
2 sns.boxplot(x='Pregnancies', y='Age', data=data)
3 plt.title('BMI Distribution by Diabetes Diagnosis')
4 plt.show()
```



```
In [40]: 1 correlation_matrix = df.corr()
2
3 plt.figure(figsize=(8, 6))
4 sns.heatmap(correlation_matrix, annot=True, cmap='coolwarm', fmt='.2f')
5 plt.title('Correlation Heatmap')
6 plt.show()
```



```
In [ ]: 1
```