```
import warnings
warnings.filterwarnings("ignore", category=DeprecationWarning)
import pandas as pd
from mlxtend.frequent_patterns import apriori, association_rules
from sklearn.model_selection import train_test_split
from sklearn.tree import DecisionTreeClassifier
from sklearn.metrics import accuracy_score
```

```
file_path = '/content/diabetes_prediction_dataset.csv'
data = pd.read_csv(file_path)
data.head()
```

```
/usr/local/lib/python3.10/dist-packages/ipykernel/ipkernel.py:283: Deprecation
  and should_run_async(code)
```

	gender	age	hypertension	heart_disease	smoking_history	bmi	HbA1c_level
0	Female	80.0	0	1	never	25.19	6.6
1	Female	54.0	0	0	No Info	27.32	6.6
2	Male	28.0	0	0	never	27.32	5.7
3	Female	36.0	0	0	current	23.45	5.0
4	Male	76.0	1	1	current	20.14	4.8

Next steps: Generate code with data View recommended plots

```
df = data[['heart_disease', 'diabetes']]
df_onehot = pd.get_dummies(df, columns=['heart_disease', 'diabetes'],prefix=['heart
frequent_itemsets = apriori(df_onehot, min_support=0.1, use_colnames=True)
rules = association_rules(frequent_itemsets, metric="lift", min_threshold=1)
print(rules)
```

```
          antecedents        consequents  antecedent support  \
0  (heart_disease_0)       (diabetes_0)             0.96058   
1       (diabetes_0)  (heart_disease_0)             0.91500   

   consequent support  support  confidence      lift  leverage  conviction  \
0             0.91500  0.88825    0.924702  1.010603  0.009319    1.128844   
1             0.96058  0.88825    0.970765  1.010603  0.009319    1.348385   

   zhangs_metric  
0       0.266153  
1       0.123432  
/usr/local/lib/python3.10/dist-packages/ipykernel/ipkernel.py:283: Deprecatio
  and should_run_async(code)
```

```
X = df_onehot.drop(columns=['diabetes_1'])
y = df_onehot['diabetes_1']

X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.3, random_sta

clf = DecisionTreeClassifier()
clf.fit(X_train, y_train)

y_pred = clf.predict(X_test)

accuracy = accuracy_score(y_test, y_pred)
accuracy
```

```
/usr/local/lib/python3.10/dist-packages/ipykernel/ipkernel.py:283: Deprecatio
  and should_run_async(code)
1.0
```