Correlation is a statistical measure used to describe the relationship between two variables. It indicates the extent to which changes in one variable are associated with changes in another variable. Correlation is typically quantified by a correlation coefficient, which ranges from -1 to +1.

When the correlation coefficient is positive, it indicates a positive correlation, meaning that as one variable increases, the other variable also tends to increase. For example, there might be a positive correlation between studying hours and exam scores, suggesting that students who study more tend to achieve higher scores.

Conversely, when the correlation coefficient is negative, it indicates a negative correlation, implying that as one variable increases, the other variable tends to decrease. An example could be the correlation between outdoor temperature and sales of winter clothing, where higher temperatures are associated with lower sales.

A correlation coefficient of zero suggests no correlation between the variables, meaning that changes in one variable do not predict changes in the other variable. This does not necessarily imply that there is no relationship between the variables, just that there is no linear relationship.

It's important to note that correlation does not imply causation. Just because two variables are correlated does not mean that changes in one variable cause changes in the other variable. Correlation only indicates the strength and direction of the relationship between variables, not the cause-and-effect relationship.

Additionally, outliers can have a significant impact on correlation coefficients. Outliers are data points that lie far away from the rest of the data and can skew the correlation coefficient if not properly addressed.

Finally, correlation coefficients can vary in strength. A correlation coefficient close to +1 or -1 indicates a strong relationship between variables, while a correlation coefficient close to 0 suggests a weak relationship. The magnitude of the correlation coefficient provides insight into the strength of the relationship between variables, with larger values indicating stronger relationships.

CODE:

```
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
from sklearn.datasets import make_classification

# Generate synthetic network traffic data
X, y = make_classification(n_samples=1000, n_features=10, n_classes=2,
random_state=42)

# Create DataFrame
data = pd.DataFrame(X, columns=[f"feature_{i}" for i in range(X.shape[1])])
data['target'] = y

# Display the first few rows of the dataset
print(data.head())

# Calculate correlation matrix
correlation_matrix = data.corr()

# Plot heatmap of correlation matrix
plt.figure(figsize=(10, 8))
sns.heatmap(correlation_matrix, annot=True, cmap='coolwarm', fmt=".2f")
plt.title('Correlation Matrix of Network Traffic Features')
plt.show()
```