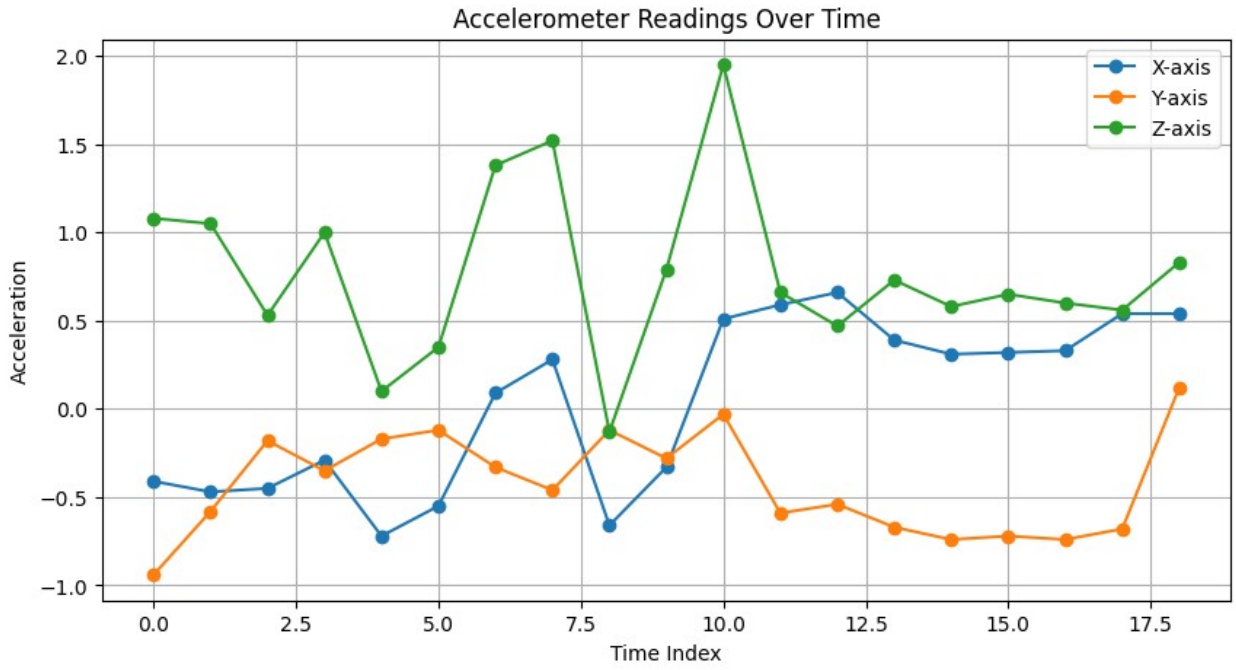
```
import csv
import matplotlib.pyplot as plt

file_path = "accelerometer_data.csv"

data = [
    (-0.41, -0.94, 1.08), (-0.47, -0.58, 1.05), (-0.45, -0.18, 0.53),
    (-0.29, -0.35, 1.00), (-0.72, -0.17, 0.10), (-0.55, -0.12, 0.35),
    (0.09, -0.33, 1.38), (0.28, -0.46, 1.52), (-0.66, -0.12, -0.13),
    (-0.33, -0.28, 0.79), (0.51, -0.03, 1.95),
    (0.59, -0.59, 0.66), (0.66, -0.54, 0.47), (0.39, -0.67, 0.73),
    (0.31, -0.74, 0.58), (0.32, -0.72, 0.65), (0.33, -0.74, 0.60),
    (0.54, -0.68, 0.56), (0.54, 0.12, 0.83)
]

with open(file_path, 'w', newline='') as file:
    csv.writer(file).writerows(data)

with open(file_path, 'r') as file:
    data = [list(map(float, row)) for row in csv.reader(file)]

time = range(len(data))

plt.figure(figsize=(10, 5))
for i, axis in enumerate(['X', 'Y', 'Z']):
    plt.plot(time, [row[i] for row in data], label=f'{axis}-axis',
marker='o')

plt.xlabel('Time Index')
plt.ylabel('Acceleration')
plt.title('Accelerometer Readings Over Time')
plt.legend()
plt.grid(True)
plt.show()
```


Accelerometer Readings Over Time
X-axis
Y-axis
Z-axis
Acceleration
Time Index
2.0
1.5
1.0
0.5
0.0
−0.5
−1.0
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5