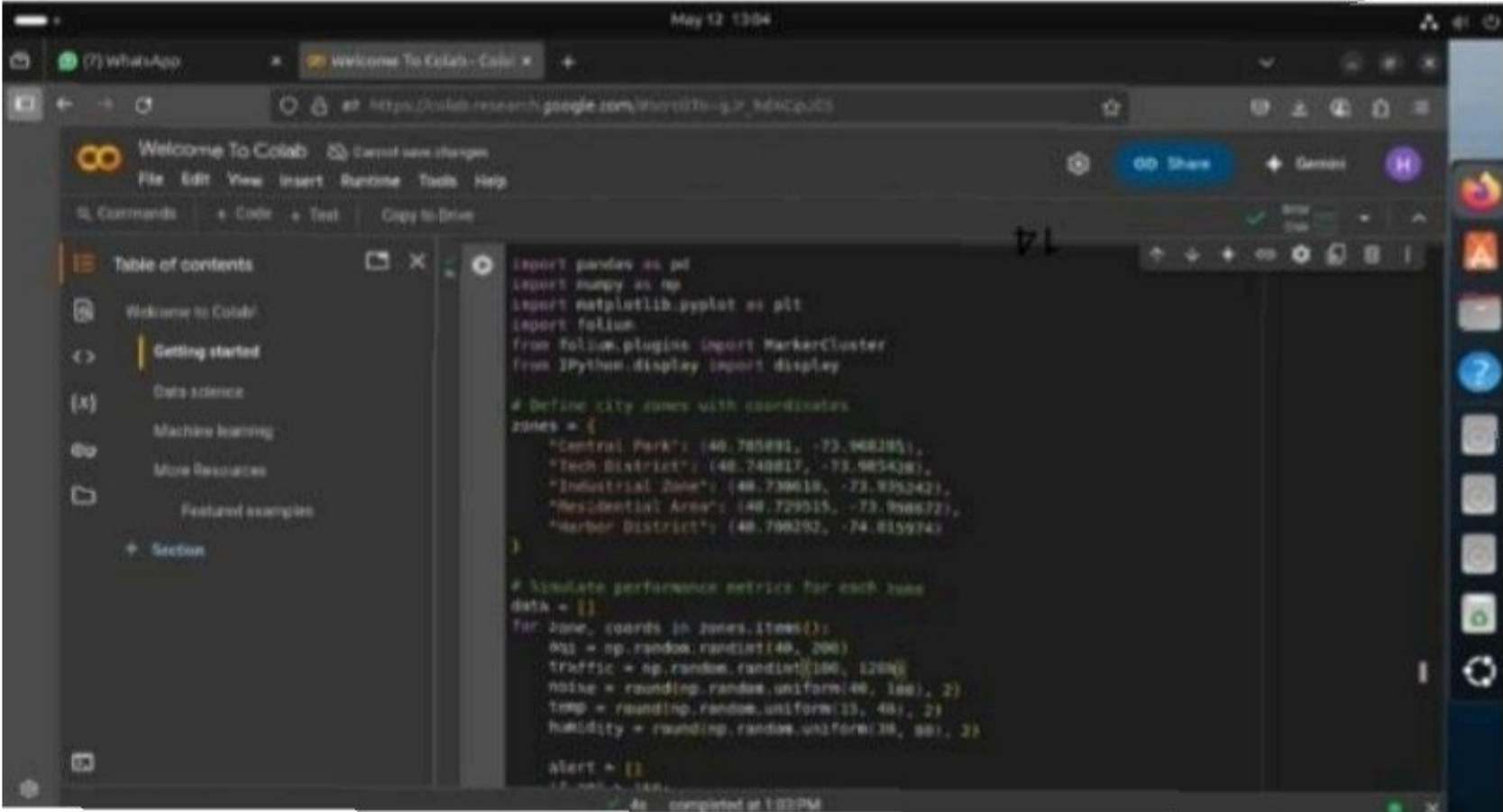


SOURCE CODE :



The screenshot shows a Google Colab notebook titled "Welcome To Colab" with a dark theme. The left sidebar contains a "Table of contents" with links to "Welcome to Colab", "Getting started", "Data science", "Machine learning", "More Resources", and "Featured examples". The main editor area displays the following Python code:

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import folium
from folium.plugins import MarkerCluster
from IPython.display import display

# Define city zones with coordinates
zones = {
    "Central Park": (40.785091, -72.968285),
    "Tech District": (40.740817, -73.985428),
    "Industrial Zone": (40.739619, -73.935242),
    "Residential Area": (40.729515, -73.98672),
    "Harbor District": (40.700292, -74.015974)
}

# Simulate performance metrics for each zone
data = []
for zone, coords in zones.items():
    qps = np.random.randint(40, 200)
    traffic = np.random.randint(100, 1200)
    noise = rounding.random.uniform(40, 100, 2)
    temp = rounding.random.uniform(15, 40, 2)
    humidity = rounding.random.uniform(30, 80, 2)

    alert = []
    if not ...
```

The code is partially obscured by a vertical line and a "14" label. The bottom status bar indicates the code was "completed at 1:03 PM".

```
May 12 13:06

Welcome To Colab
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alert = []
if aqi > 150:
    alert.append("High AQI")
if traffic > 1000:
    alert.append("Traffic Congestion")
if noise > 85:
    alert.append("High Noise")

data.append({
    "Zone": zone,
    "Latitude": coords[0],
    "Longitude": coords[1],
    "AQI": aqi,
    "Traffic": traffic,
    "Noise": noise,
    "Temperature (C)": temp,
    "Humidity (%)": humidity,
    "Alert": ", ".join(alert) if alert else "None!"
})

# Create DataFrame and display
urban_df = pd.DataFrame(data)
display(urban_df)

# Save to CSV
urban_df.to_csv("final_urban_planning_data.csv", index=False)

4s completed at 1:03 PM
```

```
May 12 13:07

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    "Longitude": coords[1],
    "AQI": aqi,
    "Traffic": traffic,
    "Noise": noise,
    "Temperature (C)": temp,
    "Humidity (%)": humidity,
    "Alert": ", ".join(alert) if alert else "None!"
})

# Create DataFrame and display
urban_df = pd.DataFrame(data)
display(urban_df)

# Save to CSV
urban_df.to_csv("final_urban_planning_data.csv", index=False)

# Plot metrics
plt.figure(figsize=(10,5))
plt.plot(urban_df["Zone"], urban_df["AQI"], label="AQI", marker="o")
plt.plot(urban_df["Zone"], urban_df["Traffic"], label="Traffic", marker="s")
plt.plot(urban_df["Zone"], urban_df["Noise"], label="Noise", marker="^")
plt.title("Urban Performance Metrics by Zone")
plt.ylabel("Value")
plt.grid(True)
plt.legend()
plt.tight_layout()
plt.show()
```

OUTPUT:

