

```

import logging
import sqlite3
import time
import psutil

# Configuration du logging
logging.basicConfig(filename='monitoring.log', level=logging.INFO, format='%(asctime)s - %(levelname)s - %(message)s')

# Function to create and populate the CPU table
def create_cpu_table(conn):
    """
    Creates a table named 'cpu' in the given SQLite connection if it doesn't exist already,
    with columns for id (primary key), timestamp, and cpu_percent.

    Args:
        conn (sqlite3.Connection): SQLite database connection object.
    """
    cursor = conn.cursor()
    cursor.execute("""CREATE TABLE IF NOT EXISTS cpu (
                        id INTEGER PRIMARY KEY,
                        timestamp TIMESTAMP,
                        cpu_percent REAL
                    )""")
    conn.commit()

def insert_cpu_data(conn, cpu_percent):
    """
    Inserts CPU data (timestamp and CPU percentage) into the 'cpu' table.

    Args:
        conn (sqlite3.Connection): SQLite database connection object.
        cpu_percent (float): CPU percentage value.
    """
    cursor = conn.cursor()
    cursor.execute("""INSERT INTO cpu (timestamp, cpu_percent) VALUES (?, ?)""", (int(time.time()), cpu_percent))
    conn.commit()

# Function to create and populate the Memory table
def create_memory_table(conn):

```

```

"""
Creates a table named 'memory' in the given SQLite connection if it doesn't exist already,
with columns for id (primary key), timestamp, total_memory, available_memory, used_memory, and
free_memory.

Args:
    conn (sqlite3.Connection): SQLite database connection object.
"""

cursor = conn.cursor()
cursor.execute("""CREATE TABLE IF NOT EXISTS memory (
                id INTEGER PRIMARY KEY,
                timestamp TIMESTAMP,
                total_memory REAL,
                available_memory REAL,
                used_memory REAL,
                free_memory REAL
            )""")
conn.commit()

def insert_memory_data(conn):
    """
    Inserts memory data (timestamp, total, available, used, and free memory) into the 'memory' table.

    Args:
        conn (sqlite3.Connection): SQLite database connection object.
    """
    memory = psutil.virtual_memory()
    cursor = conn.cursor()
    cursor.execute("""INSERT INTO memory (timestamp, total_memory, available_memory, used_memory,
free_memory)
                    VALUES (?, ?, ?, ?, ?)""", (int(time.time()), memory.total, memory.available, memory.used,
memory.free))
    conn.commit()

# Function to create and populate the Network table
def create_network_table(conn):
    """
    Creates a table named 'network' in the given SQLite connection if it doesn't exist already,
    with columns for id (primary key), timestamp, bytes_sent, and bytes_recv.

```

Args:

conn (sqlite3.Connection): SQLite database connection object.

"""

```
cursor = conn.cursor()
```

```
cursor.execute("""CREATE TABLE IF NOT EXISTS network (
```

```
    id INTEGER PRIMARY KEY,
```

```
    timestamp TIMESTAMP,
```

```
    bytes_sent REAL,
```

```
    bytes_rcv REAL
```

```
)""")
```

```
conn.commit()
```

```
def insert_network_data(conn):
```

"""

Inserts network data (timestamp, bytes_sent, and bytes_rcv) into the 'network' table.

Args:

conn (sqlite3.Connection): SQLite database connection object.

"""

```
network = psutil.net_io_counters()
```

```
cursor = conn.cursor()
```

```
cursor.execute("""INSERT INTO network (timestamp, bytes_sent, bytes_rcv) VALUES (?, ?, ?)""",
```

```
(int(time.time()), network.bytes_sent, network.bytes_rcv))
```

```
conn.commit()
```

```
# Establish SQLite database connection
```

```
conn = sqlite3.connect('monitoring.db')
```

```
# Create tables if they do not exist already
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```
create_cpu_table(conn)
```

```
create_memory_table(conn)
```

```
create_network_table(conn)
```

```
try:
```

```
    while True:
```

```
        # Data collection
```

```
        # CPU
```

```
        cpu_percent = psutil.cpu_percent()
```

```
        cpu_time = psutil.cpu_times_percent()
```

```
        cpu_load_av = psutil.getloadavg()
```

```
# Memory
virtual_memory = psutil.virtual_memory()
swap_memory = psutil.swap_memory()

# Network
network_info = psutil.net_io_counters()

# Print collected data
print(f"CPU Info:\t{cpu_percent}")
print(f"Memory Info:\t{virtual_memory}")
print(f"Network Info:\t{network_info}")

# Insert data into the database
insert_cpu_data(conn, cpu_percent)
insert_memory_data(conn)
insert_network_data(conn)

# Log the data
logging.info(f"CPU Percent:\t{cpu_percent}%")
logging.info(f"Memory Info:\t{virtual_memory}")
logging.info(f"Network Info:\t{network_info}")

time.sleep(10)

except KeyboardInterrupt:
    conn.close()
```