Record Management System

Milestone: Relational Model

Group 3

Gudipalli Sri Sai Prabhath Reddy

Yashwant Dontam

857-398-7947 (Prabhath)

857-230-5413 (Yashwant)

gudipalli.s@northeastern.edu

dontam.y@northeastern.edu

Percentage of Effort Contributed by Student1: 50%

Percentage of Effort Contributed by Student2: 50%

Signature of Student 1: Gudipalli Sri Sai Prabhath Reddy

Signature of Student 2: Yashwant Dontam

Submission Date: 10/29/2023

Retrieving the total number of cases involving suspects with a criminal record and without a criminal record.

In [56]:

```
import mysql.connector
import pandas as pd
from sqlalchemy import create_engine

connection = mysql.connector.connect(
    host="localhost",
    user="root",
    password="Iamironman2!",
    database="rms1",
    auth_plugin='mysql_native_password'
)

if connection.is_connected():
    print("Connection established...")
cursor = connection.cursor()

query = """
    SELECT CriminalRecord, COUNT(*) as CaseCount
    FROM Suspects s
    LEFT JOIN Involved i ON s.SuspectID = i.SuspectID
    LEFT JOIN Cases c ON i.CaseID = c.CaseID
    GROUP BY CriminalRecord
"""

engine = create_engine('mysql+mysqlconnector://root:Iamironman2!@localhost/rms1')
df = pd.read_sql(query, engine)
print(df)
cursor.close()
connection.close()
```

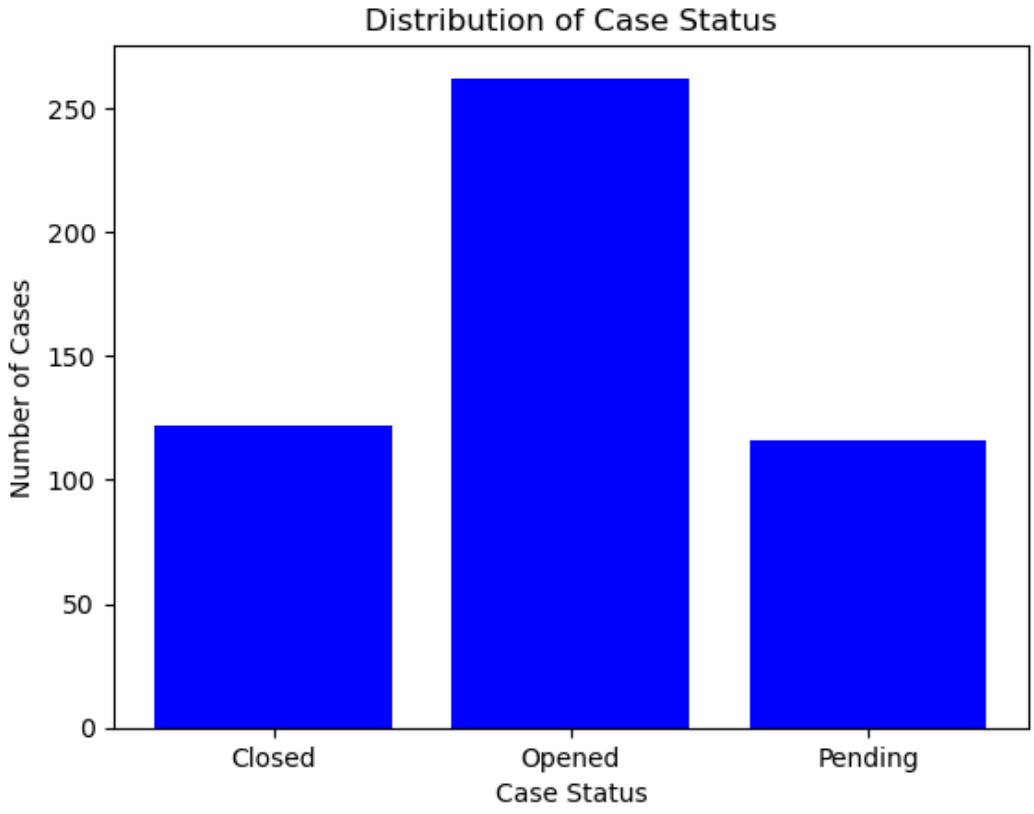
```
Connection established...
  CriminalRecord  CaseCount
0            Yes        257
1             No        243
```

In [13]:

```
import mysql.connector
conn = mysql.connector.connect (host='localhost', password='Iamironman2!', user= 'root')

if conn.is_connected():
 print("Conncetion established...")

from mysql.connector import Error
connection = mysql.connector.connect(host='localhost',
database='rms1',
user='root',
password='Iamironman2!',
auth_plugin = 'mysql_native_password')
if connection.is_connected():
    db_Info = connection.get_server_info()
print("Connected to MySQL Server version ", db_Info)
cursor = connection.cursor()
cursor.execute("select database();")
record = cursor.fetchone()
print("Your connected to database: ", record)

import matplotlib.pyplot as plt
cursor = connection.cursor()

query = "SELECT CaseStatus, COUNT(*) FROM Cases GROUP BY CaseStatus"

cursor.execute(query)
```

```
results = cursor.fetchall()

cursor.close()
connection.close()

case_statuses, counts = zip(*results)

plt.bar(case_statuses, counts, color='blue')
plt.xlabel('Case Status')
plt.ylabel('Number of Cases')
plt.title('Distribution of Case Status')
plt.show()
```

```
Conncetion established...
Connected to MySQL Server version  8.0.35
Your connected to database:  ('rms1',)
```



In [15]:

```
import mysql.connector
conn = mysql.connector.connect (host='localhost', password='Iamironman2!', user= 'root')

if conn.is_connected():
 print("Conncetion established...")

from mysql.connector import Error
connection = mysql.connector.connect(host='localhost',
database='rms1',
user='root',
password='Iamironman2!',
auth_plugin = 'mysql_native_password')
if connection.is_connected():
    db_Info = connection.get_server_info()
print("Connected to MySQL Server version ", db_Info)
cursor = connection.cursor()
cursor.execute("select database();")
record = cursor.fetchone()
print("Your connected to database: ", record)


cursor = connection.cursor()

query = "SELECT UserID, AccessLevel, COUNT(*) FROM AccessRights GROUP BY UserID, AccessLe
vel"
```

```
cursor.execute(query)

results = cursor.fetchall()

cursor.close()
connection.close()

user_ids = [result[0] for result in results]
access_levels = [result[1] for result in results]
counts = [result[2] for result in results]

for user_id, access_level, count in zip(user_ids, access_levels, counts):
    print(f"UserID {user_id}: {access_level} Access - Count: {count}")

plt.bar(user_ids, counts, color='blue')
plt.xlabel('UserID')
plt.ylabel('Access Count')
plt.title('Access Level Distribution for User IDs')
plt.show()
```

```
Conncetion established...
Connected to MySQL Server version  8.0.35
Your connected to database:  ('rms1',)
UserID 4500: Full Access - Count: 1
UserID 4501: Read-Only Access - Count: 1
UserID 4502: NoAccess Access - Count: 1
UserID 4503: Read-Only Access - Count: 1
UserID 4504: NoAccess Access - Count: 1
UserID 4505: Limited Access - Count: 1
UserID 4506: Read-Only Access - Count: 1
UserID 4507: Read-Only Access - Count: 1
UserID 4508: Full Access - Count: 1
UserID 4509: Read-Write Access - Count: 1
UserID 4510: Custom Access - Count: 1
UserID 4511: Read-Write Access - Count: 1
UserID 4512: Read-Write Access - Count: 1
UserID 4513: Full Access - Count: 1
UserID 4514: Custom Access - Count: 1
UserID 4515: Read-Only Access - Count: 1
UserID 4516: Limited Access - Count: 1
UserID 4517: Full Access - Count: 1
UserID 4518: Full Access - Count: 1
UserID 4519: Read-Write Access - Count: 1
UserID 4520: Limited Access - Count: 1
UserID 4521: NoAccess Access - Count: 1
UserID 4522: Limited Access - Count: 1
UserID 4523: NoAccess Access - Count: 1
UserID 4524: Custom Access - Count: 1
UserID 4525: Read-Only Access - Count: 1
UserID 4526: Full Access - Count: 1
UserID 4527: Read-Only Access - Count: 1
UserID 4528: Custom Access - Count: 1
UserID 4529: Custom Access - Count: 1
UserID 4530: Limited Access - Count: 1
UserID 4531: Custom Access - Count: 1
UserID 4532: Full Access - Count: 1
UserID 4533: Read-Only Access - Count: 1
UserID 4534: Limited Access - Count: 1
UserID 4535: Limited Access - Count: 1
UserID 4536: Full Access - Count: 1
UserID 4537: Read-Only Access - Count: 1
UserID 4538: Read-Write Access - Count: 1
UserID 4539: Full Access - Count: 1
UserID 4540: Full Access - Count: 1
UserID 4541: Limited Access - Count: 1
UserID 4542: Custom Access - Count: 1
UserID 4543: Limited Access - Count: 1
UserID 4544: Read-Only Access - Count: 1
UserID 4545: Limited Access - Count: 1
UserID 4546: Full Access - Count: 1
UserID 4547: Read-Write Access - Count: 1
```

UserID 4548: Limited Access - Count: 1
UserID 4549: Full Access - Count: 1
UserID 4550: Read-Write Access - Count: 1
UserID 4551: Full Access - Count: 1
UserID 4552: Custom Access - Count: 1
UserID 4553: NoAccess Access - Count: 1
UserID 4554: Read-Write Access - Count: 1
UserID 4555: Custom Access - Count: 1
UserID 4556: NoAccess Access - Count: 1
UserID 4557: Full Access - Count: 1
UserID 4558: Custom Access - Count: 1
UserID 4559: Limited Access - Count: 1
UserID 4560: Limited Access - Count: 1
UserID 4561: Custom Access - Count: 1
UserID 4562: NoAccess Access - Count: 1
UserID 4563: Limited Access - Count: 1
UserID 4564: Full Access - Count: 1
UserID 4565: Custom Access - Count: 1
UserID 4566: Read-Write Access - Count: 1
UserID 4567: Full Access - Count: 1
UserID 4568: Limited Access - Count: 1
UserID 4569: Full Access - Count: 1
UserID 4570: Custom Access - Count: 1
UserID 4571: Full Access - Count: 1
UserID 4572: Limited Access - Count: 1
UserID 4573: NoAccess Access - Count: 1
UserID 4574: Limited Access - Count: 1
UserID 4575: Limited Access - Count: 1
UserID 4576: Read-Write Access - Count: 1
UserID 4577: Read-Write Access - Count: 1
UserID 4578: NoAccess Access - Count: 1
UserID 4579: Full Access - Count: 1
UserID 4580: Full Access - Count: 1
UserID 4581: Custom Access - Count: 1
UserID 4582: NoAccess Access - Count: 1
UserID 4583: Read-Only Access - Count: 1
UserID 4584: Limited Access - Count: 1
UserID 4585: Custom Access - Count: 1
UserID 4586: Limited Access - Count: 1
UserID 4587: Full Access - Count: 1
UserID 4588: Full Access - Count: 1
UserID 4589: Custom Access - Count: 1
UserID 4590: Read-Only Access - Count: 1
UserID 4591: Read-Write Access - Count: 1
UserID 4592: Full Access - Count: 1
UserID 4593: Read-Write Access - Count: 1
UserID 4594: Custom Access - Count: 1
UserID 4595: Read-Only Access - Count: 1
UserID 4596: Read-Write Access - Count: 1
UserID 4597: Read-Write Access - Count: 1
UserID 4598: Custom Access - Count: 1
UserID 4599: Custom Access - Count: 1
UserID 4600: Full Access - Count: 1
UserID 4601: Custom Access - Count: 1
UserID 4602: Custom Access - Count: 1
UserID 4603: Read-Write Access - Count: 1
UserID 4604: Limited Access - Count: 1
UserID 4605: Full Access - Count: 1
UserID 4606: Full Access - Count: 1
UserID 4607: Custom Access - Count: 1
UserID 4608: Full Access - Count: 1
UserID 4609: Read-Write Access - Count: 1
UserID 4610: Full Access - Count: 1
UserID 4611: Custom Access - Count: 1
UserID 4612: NoAccess Access - Count: 1
UserID 4613: NoAccess Access - Count: 1
UserID 4614: Custom Access - Count: 1
UserID 4615: NoAccess Access - Count: 1
UserID 4616: Read-Write Access - Count: 1
UserID 4617: NoAccess Access - Count: 1
UserID 4618: Full Access - Count: 1
UserID 4619: Limited Access - Count: 1

UserID 4620: NoAccess Access - Count: 1
UserID 4621: Read-Write Access - Count: 1
UserID 4622: Custom Access - Count: 1
UserID 4623: Read-Only Access - Count: 1
UserID 4624: Limited Access - Count: 1
UserID 4625: Limited Access - Count: 1
UserID 4626: Read-Write Access - Count: 1
UserID 4627: Limited Access - Count: 1
UserID 4628: Read-Write Access - Count: 1
UserID 4629: NoAccess Access - Count: 1
UserID 4630: Read-Write Access - Count: 1
UserID 4631: Read-Write Access - Count: 1
UserID 4632: Limited Access - Count: 1
UserID 4633: Limited Access - Count: 1
UserID 4634: Limited Access - Count: 1
UserID 4635: Limited Access - Count: 1
UserID 4636: Custom Access - Count: 1
UserID 4637: Limited Access - Count: 1
UserID 4638: Read-Write Access - Count: 1
UserID 4639: Read-Only Access - Count: 1
UserID 4640: Full Access - Count: 1
UserID 4641: Read-Write Access - Count: 1
UserID 4642: Custom Access - Count: 1
UserID 4643: Limited Access - Count: 1
UserID 4644: Read-Write Access - Count: 1
UserID 4645: Limited Access - Count: 1
UserID 4646: Full Access - Count: 1
UserID 4647: Custom Access - Count: 1
UserID 4648: Read-Write Access - Count: 1
UserID 4649: Custom Access - Count: 1
UserID 4650: Full Access - Count: 1
UserID 4651: Read-Write Access - Count: 1
UserID 4652: Full Access - Count: 1
UserID 4653: Full Access - Count: 1
UserID 4654: Limited Access - Count: 1
UserID 4655: Read-Write Access - Count: 1
UserID 4656: Full Access - Count: 1
UserID 4657: Custom Access - Count: 1
UserID 4658: Limited Access - Count: 1
UserID 4659: Read-Write Access - Count: 1
UserID 4660: Read-Write Access - Count: 1
UserID 4661: Read-Write Access - Count: 1
UserID 4662: Read-Write Access - Count: 1
UserID 4663: Full Access - Count: 1
UserID 4664: NoAccess Access - Count: 1
UserID 4665: Custom Access - Count: 1
UserID 4666: Limited Access - Count: 1
UserID 4667: Limited Access - Count: 1
UserID 4668: Custom Access - Count: 1
UserID 4669: Custom Access - Count: 1
UserID 4670: Full Access - Count: 1
UserID 4671: Custom Access - Count: 1
UserID 4672: Custom Access - Count: 1
UserID 4673: Limited Access - Count: 1
UserID 4674: Limited Access - Count: 1
UserID 4675: Read-Write Access - Count: 1
UserID 4676: Read-Write Access - Count: 1
UserID 4677: Read-Write Access - Count: 1
UserID 4678: Custom Access - Count: 1
UserID 4679: Full Access - Count: 1
UserID 4680: Custom Access - Count: 1
UserID 4681: NoAccess Access - Count: 1
UserID 4682: NoAccess Access - Count: 1
UserID 4683: Read-Write Access - Count: 1
UserID 4684: Full Access - Count: 1
UserID 4685: Full Access - Count: 1
UserID 4686: Full Access - Count: 1
UserID 4687: Custom Access - Count: 1
UserID 4688: NoAccess Access - Count: 1
UserID 4689: Read-Write Access - Count: 1
UserID 4690: NoAccess Access - Count: 1
UserID 4691: Custom Access - Count: 1

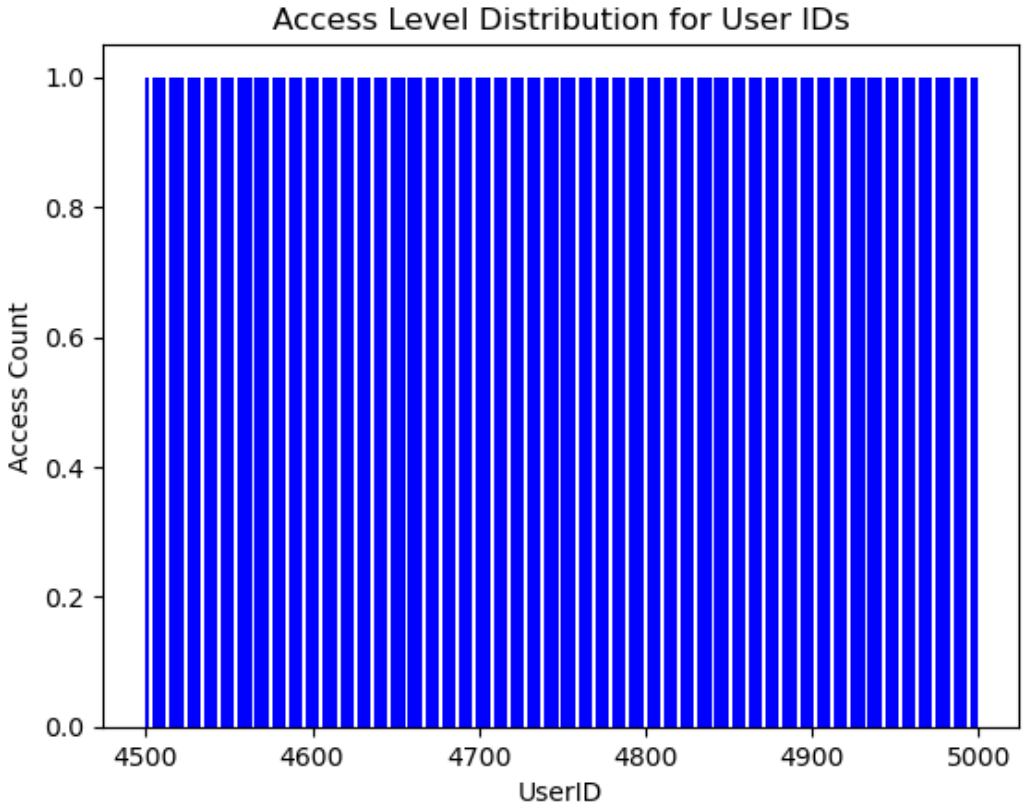
UserID 4692: Custom Access - Count: 1
UserID 4693: Limited Access - Count: 1
UserID 4694: Custom Access - Count: 1
UserID 4695: Read-Only Access - Count: 1
UserID 4696: Read-Write Access - Count: 1
UserID 4697: Full Access - Count: 1
UserID 4698: Full Access - Count: 1
UserID 4699: Full Access - Count: 1
UserID 4700: Read-Write Access - Count: 1
UserID 4701: Full Access - Count: 1
UserID 4702: Custom Access - Count: 1
UserID 4703: Full Access - Count: 1
UserID 4704: Read-Only Access - Count: 1
UserID 4705: Read-Write Access - Count: 1
UserID 4706: Read-Only Access - Count: 1
UserID 4707: Full Access - Count: 1
UserID 4708: NoAccess Access - Count: 1
UserID 4709: Read-Write Access - Count: 1
UserID 4710: Custom Access - Count: 1
UserID 4711: Read-Only Access - Count: 1
UserID 4712: Custom Access - Count: 1
UserID 4713: NoAccess Access - Count: 1
UserID 4714: NoAccess Access - Count: 1
UserID 4715: Read-Only Access - Count: 1
UserID 4716: Full Access - Count: 1
UserID 4717: Limited Access - Count: 1
UserID 4718: NoAccess Access - Count: 1
UserID 4719: Custom Access - Count: 1
UserID 4720: Custom Access - Count: 1
UserID 4721: Limited Access - Count: 1
UserID 4722: Read-Write Access - Count: 1
UserID 4723: Limited Access - Count: 1
UserID 4724: Limited Access - Count: 1
UserID 4725: Full Access - Count: 1
UserID 4726: NoAccess Access - Count: 1
UserID 4727: Read-Write Access - Count: 1
UserID 4728: Limited Access - Count: 1
UserID 4729: Custom Access - Count: 1
UserID 4730: Custom Access - Count: 1
UserID 4731: Read-Write Access - Count: 1
UserID 4732: Read-Only Access - Count: 1
UserID 4733: Read-Write Access - Count: 1
UserID 4734: Read-Write Access - Count: 1
UserID 4735: Full Access - Count: 1
UserID 4736: Read-Write Access - Count: 1
UserID 4737: Read-Write Access - Count: 1
UserID 4738: Read-Write Access - Count: 1
UserID 4739: NoAccess Access - Count: 1
UserID 4740: Limited Access - Count: 1
UserID 4741: Read-Only Access - Count: 1
UserID 4742: Full Access - Count: 1
UserID 4743: NoAccess Access - Count: 1
UserID 4744: Custom Access - Count: 1
UserID 4745: Read-Write Access - Count: 1
UserID 4746: Read-Write Access - Count: 1
UserID 4747: Read-Write Access - Count: 1
UserID 4748: Limited Access - Count: 1
UserID 4749: Custom Access - Count: 1
UserID 4750: Full Access - Count: 1
UserID 4751: Full Access - Count: 1
UserID 4752: Limited Access - Count: 1
UserID 4753: Limited Access - Count: 1
UserID 4754: Read-Write Access - Count: 1
UserID 4755: Read-Write Access - Count: 1
UserID 4756: Full Access - Count: 1
UserID 4757: Read-Only Access - Count: 1
UserID 4758: Read-Only Access - Count: 1
UserID 4759: NoAccess Access - Count: 1
UserID 4760: Read-Write Access - Count: 1
UserID 4761: Limited Access - Count: 1
UserID 4762: Read-Write Access - Count: 1
UserID 4763: Read-Write Access - Count: 1

UserID 4764: Custom Access - Count: 1
UserID 4765: Custom Access - Count: 1
UserID 4766: NoAccess Access - Count: 1
UserID 4767: Full Access - Count: 1
UserID 4768: Custom Access - Count: 1
UserID 4769: Custom Access - Count: 1
UserID 4770: Limited Access - Count: 1
UserID 4771: Limited Access - Count: 1
UserID 4772: Full Access - Count: 1
UserID 4773: Read-Write Access - Count: 1
UserID 4774: Read-Write Access - Count: 1
UserID 4775: NoAccess Access - Count: 1
UserID 4776: Custom Access - Count: 1
UserID 4777: Full Access - Count: 1
UserID 4778: Custom Access - Count: 1
UserID 4779: Read-Only Access - Count: 1
UserID 4780: Read-Only Access - Count: 1
UserID 4781: Limited Access - Count: 1
UserID 4782: Custom Access - Count: 1
UserID 4783: Read-Only Access - Count: 1
UserID 4784: Custom Access - Count: 1
UserID 4785: NoAccess Access - Count: 1
UserID 4786: Read-Write Access - Count: 1
UserID 4787: Read-Write Access - Count: 1
UserID 4788: NoAccess Access - Count: 1
UserID 4789: NoAccess Access - Count: 1
UserID 4790: Read-Write Access - Count: 1
UserID 4791: Custom Access - Count: 1
UserID 4792: Custom Access - Count: 1
UserID 4793: Read-Write Access - Count: 1
UserID 4794: Custom Access - Count: 1
UserID 4795: Custom Access - Count: 1
UserID 4796: Full Access - Count: 1
UserID 4797: Read-Only Access - Count: 1
UserID 4798: Custom Access - Count: 1
UserID 4799: Full Access - Count: 1
UserID 4800: Limited Access - Count: 1
UserID 4801: Custom Access - Count: 1
UserID 4802: Read-Write Access - Count: 1
UserID 4803: Limited Access - Count: 1
UserID 4804: Read-Only Access - Count: 1
UserID 4805: Read-Write Access - Count: 1
UserID 4806: Read-Only Access - Count: 1
UserID 4807: Custom Access - Count: 1
UserID 4808: Custom Access - Count: 1
UserID 4809: Limited Access - Count: 1
UserID 4810: Read-Write Access - Count: 1
UserID 4811: Full Access - Count: 1
UserID 4812: NoAccess Access - Count: 1
UserID 4813: Full Access - Count: 1
UserID 4814: Custom Access - Count: 1
UserID 4815: Read-Write Access - Count: 1
UserID 4816: Full Access - Count: 1
UserID 4817: Read-Write Access - Count: 1
UserID 4818: Custom Access - Count: 1
UserID 4819: Limited Access - Count: 1
UserID 4820: Read-Write Access - Count: 1
UserID 4821: Read-Write Access - Count: 1
UserID 4822: Custom Access - Count: 1
UserID 4823: Limited Access - Count: 1
UserID 4824: Read-Only Access - Count: 1
UserID 4825: NoAccess Access - Count: 1
UserID 4826: NoAccess Access - Count: 1
UserID 4827: Limited Access - Count: 1
UserID 4828: Read-Write Access - Count: 1
UserID 4829: Read-Write Access - Count: 1
UserID 4830: Read-Write Access - Count: 1
UserID 4831: Read-Only Access - Count: 1
UserID 4832: NoAccess Access - Count: 1
UserID 4833: Custom Access - Count: 1
UserID 4834: NoAccess Access - Count: 1
UserID 4835: Full Access - Count: 1

UserID 4836: Read-Only Access - Count: 1
UserID 4837: Full Access - Count: 1
UserID 4838: Custom Access - Count: 1
UserID 4839: NoAccess Access - Count: 1
UserID 4840: Limited Access - Count: 1
UserID 4841: Full Access - Count: 1
UserID 4842: Full Access - Count: 1
UserID 4843: Read-Write Access - Count: 1
UserID 4844: Read-Write Access - Count: 1
UserID 4845: Read-Write Access - Count: 1
UserID 4846: Read-Write Access - Count: 1
UserID 4847: Custom Access - Count: 1
UserID 4848: Read-Write Access - Count: 1
UserID 4849: Full Access - Count: 1
UserID 4850: Custom Access - Count: 1
UserID 4851: Limited Access - Count: 1
UserID 4852: Limited Access - Count: 1
UserID 4853: Full Access - Count: 1
UserID 4854: Custom Access - Count: 1
UserID 4855: Read-Write Access - Count: 1
UserID 4856: Read-Write Access - Count: 1
UserID 4857: NoAccess Access - Count: 1
UserID 4858: Full Access - Count: 1
UserID 4859: Limited Access - Count: 1
UserID 4860: Custom Access - Count: 1
UserID 4861: Custom Access - Count: 1
UserID 4862: Read-Write Access - Count: 1
UserID 4863: Limited Access - Count: 1
UserID 4864: Custom Access - Count: 1
UserID 4865: Limited Access - Count: 1
UserID 4866: Full Access - Count: 1
UserID 4867: Limited Access - Count: 1
UserID 4868: Custom Access - Count: 1
UserID 4869: Limited Access - Count: 1
UserID 4870: Custom Access - Count: 1
UserID 4871: Custom Access - Count: 1
UserID 4872: Read-Write Access - Count: 1
UserID 4873: Custom Access - Count: 1
UserID 4874: NoAccess Access - Count: 1
UserID 4875: Read-Write Access - Count: 1
UserID 4876: Limited Access - Count: 1
UserID 4877: Full Access - Count: 1
UserID 4878: Full Access - Count: 1
UserID 4879: Read-Only Access - Count: 1
UserID 4880: Custom Access - Count: 1
UserID 4881: NoAccess Access - Count: 1
UserID 4882: Full Access - Count: 1
UserID 4883: Full Access - Count: 1
UserID 4884: NoAccess Access - Count: 1
UserID 4885: NoAccess Access - Count: 1
UserID 4886: Full Access - Count: 1
UserID 4887: Limited Access - Count: 1
UserID 4888: Limited Access - Count: 1
UserID 4889: Custom Access - Count: 1
UserID 4890: Full Access - Count: 1
UserID 4891: Limited Access - Count: 1
UserID 4892: Full Access - Count: 1
UserID 4893: Read-Write Access - Count: 1
UserID 4894: Full Access - Count: 1
UserID 4895: Read-Only Access - Count: 1
UserID 4896: Limited Access - Count: 1
UserID 4897: Read-Only Access - Count: 1
UserID 4898: Read-Write Access - Count: 1
UserID 4899: Custom Access - Count: 1
UserID 4900: Limited Access - Count: 1
UserID 4901: Limited Access - Count: 1
UserID 4902: Read-Only Access - Count: 1
UserID 4903: Read-Write Access - Count: 1
UserID 4904: NoAccess Access - Count: 1
UserID 4905: Limited Access - Count: 1
UserID 4906: Custom Access - Count: 1
UserID 4907: Limited Access - Count: 1

UserID 4908: Custom Access - Count: 1
UserID 4909: Limited Access - Count: 1
UserID 4910: Full Access - Count: 1
UserID 4911: Full Access - Count: 1
UserID 4912: Read-Write Access - Count: 1
UserID 4913: Read-Write Access - Count: 1
UserID 4914: Read-Write Access - Count: 1
UserID 4915: Custom Access - Count: 1
UserID 4916: Full Access - Count: 1
UserID 4917: Read-Write Access - Count: 1
UserID 4918: Read-Write Access - Count: 1
UserID 4919: Limited Access - Count: 1
UserID 4920: Read-Write Access - Count: 1
UserID 4921: Full Access - Count: 1
UserID 4922: Read-Only Access - Count: 1
UserID 4923: Limited Access - Count: 1
UserID 4924: Full Access - Count: 1
UserID 4925: Read-Write Access - Count: 1
UserID 4926: Read-Write Access - Count: 1
UserID 4927: Custom Access - Count: 1
UserID 4928: NoAccess Access - Count: 1
UserID 4929: Custom Access - Count: 1
UserID 4930: Custom Access - Count: 1
UserID 4931: Read-Only Access - Count: 1
UserID 4932: Full Access - Count: 1
UserID 4933: Full Access - Count: 1
UserID 4934: Custom Access - Count: 1
UserID 4935: Limited Access - Count: 1
UserID 4936: Limited Access - Count: 1
UserID 4937: Full Access - Count: 1
UserID 4938: Full Access - Count: 1
UserID 4939: Full Access - Count: 1
UserID 4940: Custom Access - Count: 1
UserID 4941: Limited Access - Count: 1
UserID 4942: Read-Write Access - Count: 1
UserID 4943: Limited Access - Count: 1
UserID 4944: Read-Only Access - Count: 1
UserID 4945: Limited Access - Count: 1
UserID 4946: Custom Access - Count: 1
UserID 4947: Custom Access - Count: 1
UserID 4948: Limited Access - Count: 1
UserID 4949: Limited Access - Count: 1
UserID 4950: Full Access - Count: 1
UserID 4951: Read-Only Access - Count: 1
UserID 4952: NoAccess Access - Count: 1
UserID 4953: Limited Access - Count: 1
UserID 4954: Full Access - Count: 1
UserID 4955: Read-Write Access - Count: 1
UserID 4956: Read-Only Access - Count: 1
UserID 4957: Custom Access - Count: 1
UserID 4958: Custom Access - Count: 1
UserID 4959: Read-Only Access - Count: 1
UserID 4960: Custom Access - Count: 1
UserID 4961: Custom Access - Count: 1
UserID 4962: NoAccess Access - Count: 1
UserID 4963: Custom Access - Count: 1
UserID 4964: Full Access - Count: 1
UserID 4965: Read-Only Access - Count: 1
UserID 4966: Full Access - Count: 1
UserID 4967: Read-Write Access - Count: 1
UserID 4968: Limited Access - Count: 1
UserID 4969: Full Access - Count: 1
UserID 4970: Full Access - Count: 1
UserID 4971: Limited Access - Count: 1
UserID 4972: Limited Access - Count: 1
UserID 4973: Limited Access - Count: 1
UserID 4974: Full Access - Count: 1
UserID 4975: Custom Access - Count: 1
UserID 4976: Full Access - Count: 1
UserID 4977: Full Access - Count: 1
UserID 4978: Limited Access - Count: 1
UserID 4979: Full Access - Count: 1

```
UserID 4980: Limited Access - Count: 1
UserID 4981: Limited Access - Count: 1
UserID 4982: Full Access - Count: 1
UserID 4983: Limited Access - Count: 1
UserID 4984: Custom Access - Count: 1
UserID 4985: Custom Access - Count: 1
UserID 4986: NoAccess Access - Count: 1
UserID 4987: Limited Access - Count: 1
UserID 4988: Read-Write Access - Count: 1
UserID 4989: NoAccess Access - Count: 1
UserID 4990: Full Access - Count: 1
UserID 4991: Custom Access - Count: 1
UserID 4992: Limited Access - Count: 1
UserID 4993: Read-Write Access - Count: 1
UserID 4994: Limited Access - Count: 1
UserID 4995: NoAccess Access - Count: 1
UserID 4996: Read-Write Access - Count: 1
UserID 4997: Read-Write Access - Count: 1
UserID 4998: Limited Access - Count: 1
UserID 4999: Read-Write Access - Count: 1
```

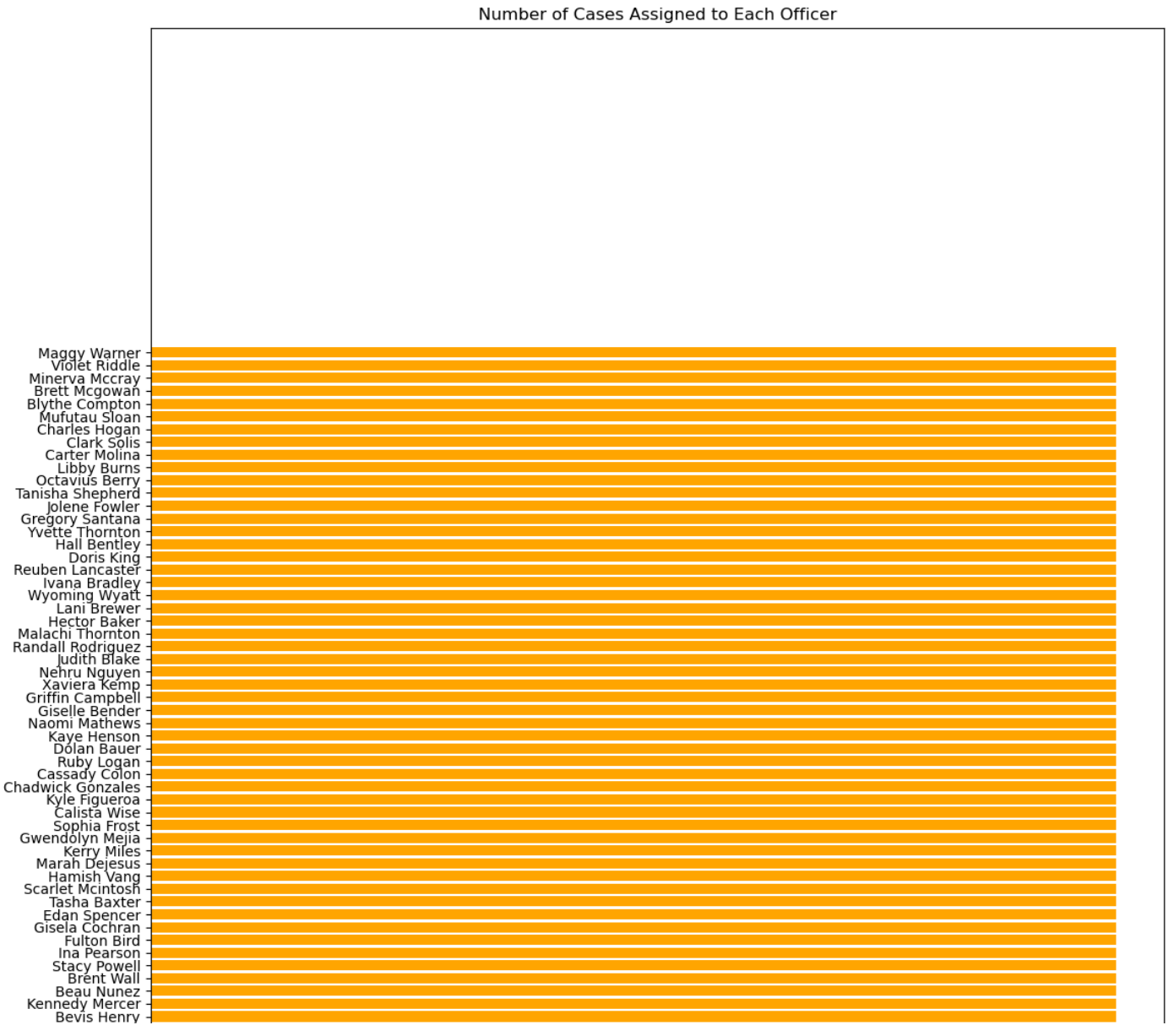


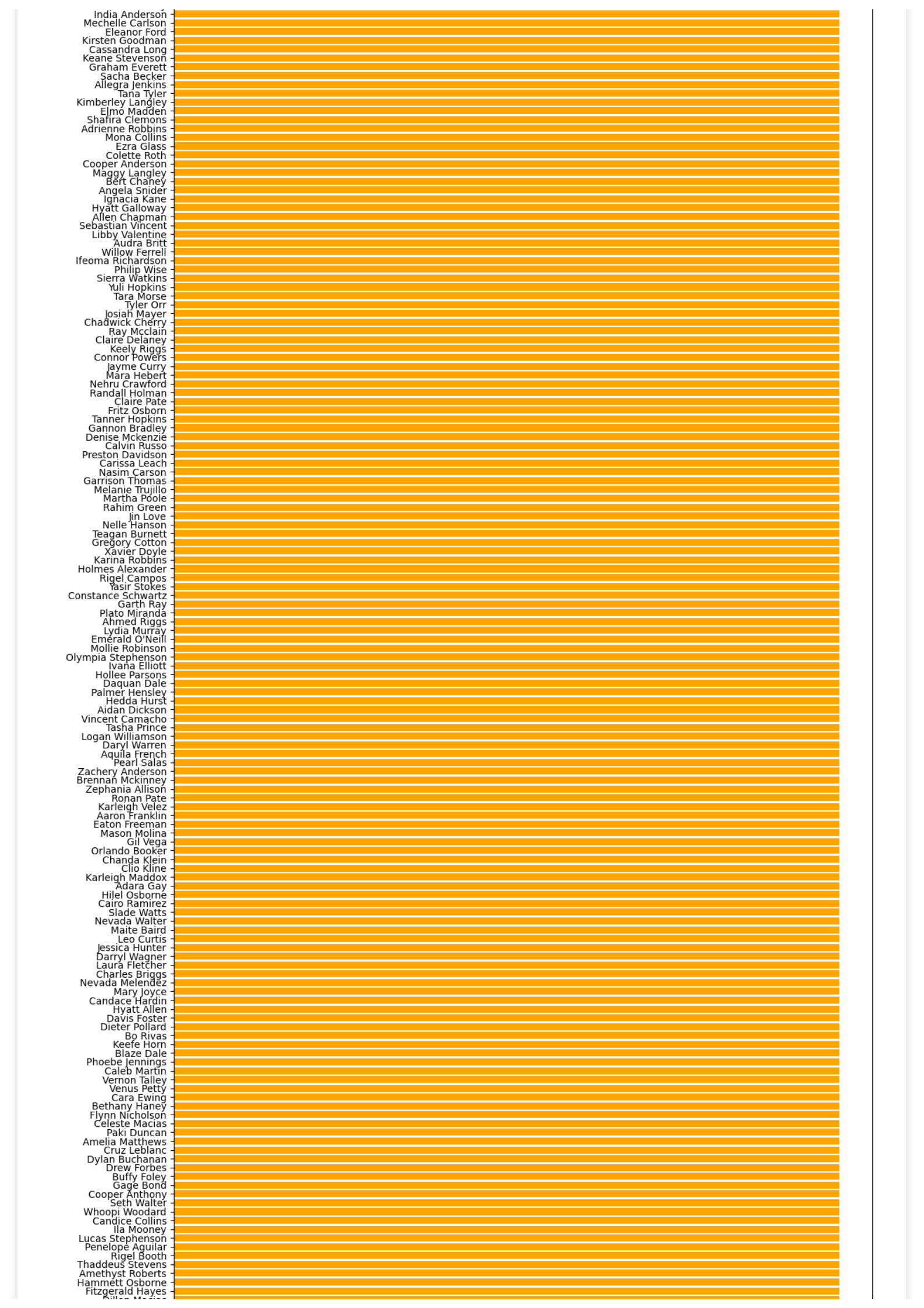
In [43]:

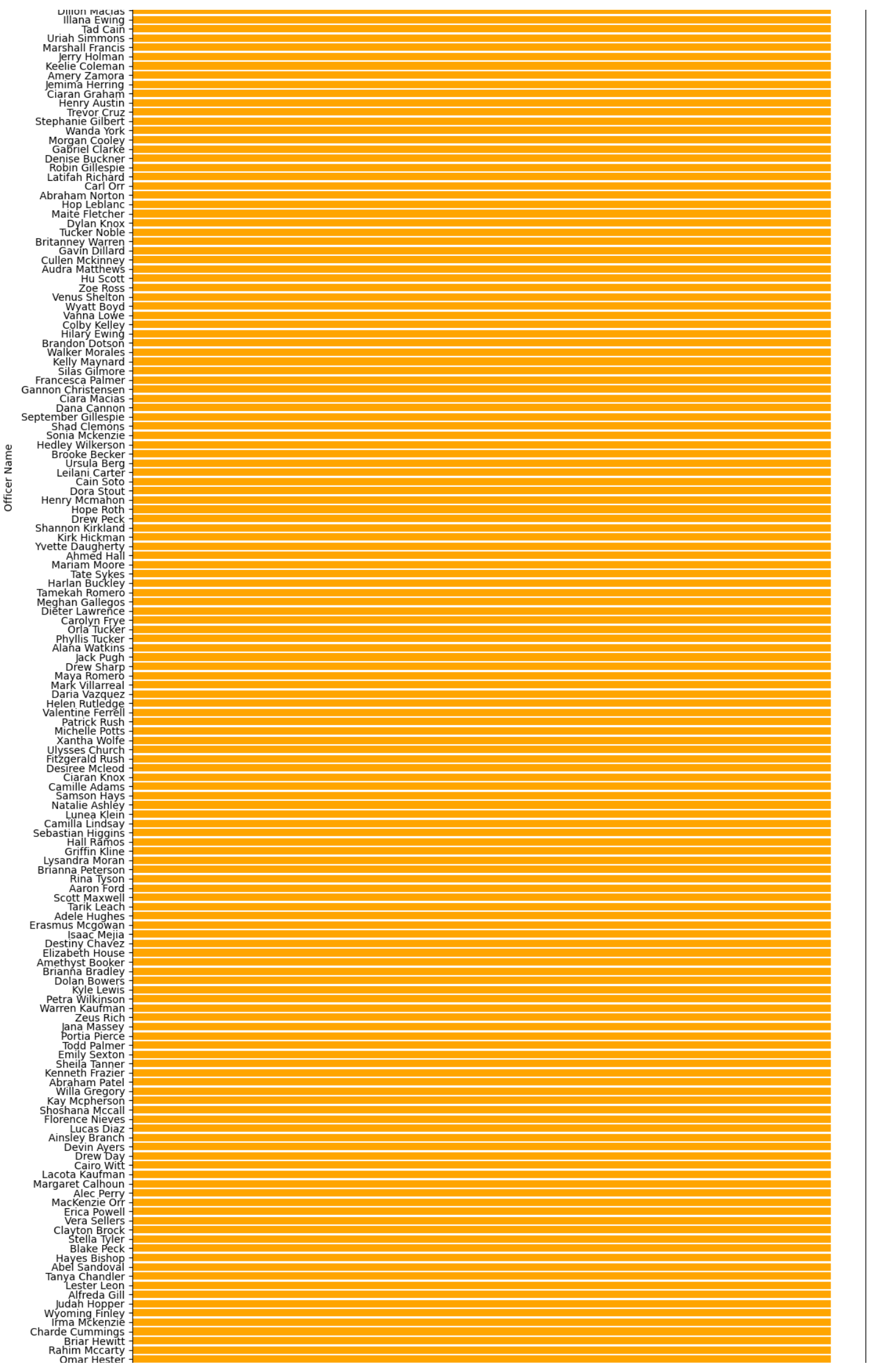
```
import mysql.connector
conn = mysql.connector.connect (host='localhost', password='Iamironman2!', user= 'root')

if conn.is_connected():
 print("Conncetion established...")


from mysql.connector import Error

connection = mysql.connector.connect(host='localhost',
database='rms1',
user='root',
password='Iamironman2!',
auth_plugin = 'mysql_native_password')
if connection.is_connected():
    db_Info = connection.get_server_info()
print("Connected to MySQL Server version ", db_Info)
cursor = connection.cursor()
cursor.execute("select database();")
record = cursor.fetchone()
print("Your connected to database: ", record)
```

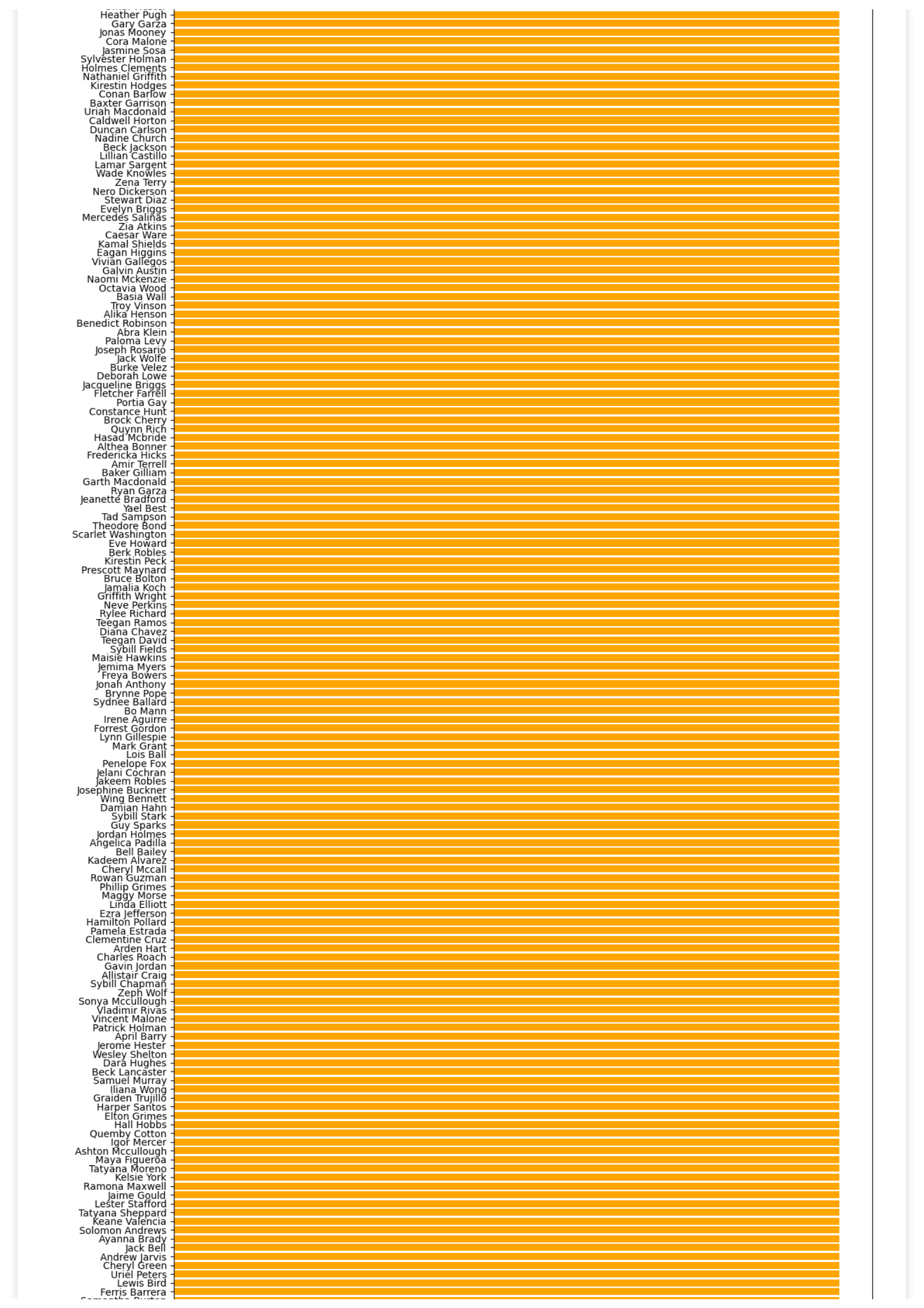
```
cursor = connection.cursor()

query = """
    SELECT Officers.OfficerName, COUNT(*) as NumberOfCases
    FROM Cases
    JOIN AssignedTo ON Cases.CaseID = AssignedTo.CaseID
    JOIN Officers ON AssignedTo.OfficerID = Officers.OfficerID
    GROUP BY Officers.OfficerName
"""

cursor.execute(query)

results = cursor.fetchall()

cursor.close()
connection.close()

officer_names, case_counts = zip(*results)

plt.figure(figsize=(12, 70))
plt.barh(officer_names, case_counts, color='orange')
plt.xlabel('Number of Cases Assigned')
plt.ylabel('Officer Name')
plt.title('Number of Cases Assigned to Each Officer')
plt.tight_layout()
plt.show()
```

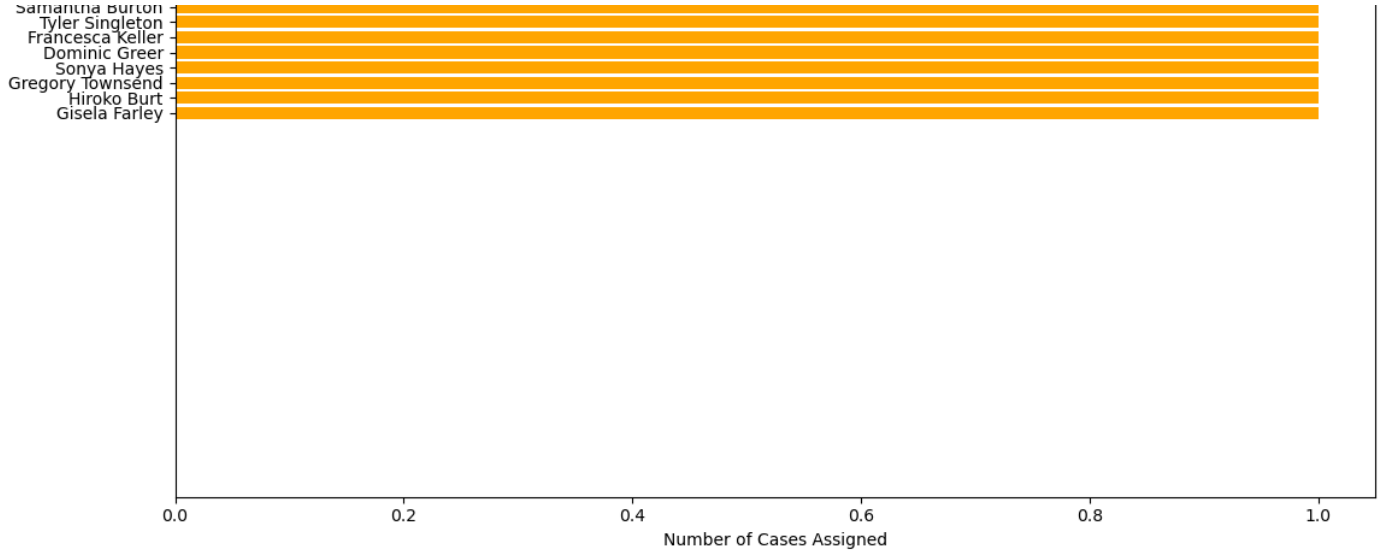
```
Conncetion established...
Connected to MySQL Server version  8.0.35
Your connected to database:  ('rms1',)
```




India Anderson
Mechelle Carlson
Eleanor Ford
Kirsten Goodman
Cassandra Long
Keane Stevenson
Graham Everett
Sacha Becker
Allegra Jenkins
Tana Tyler
Kimberley Langley
Elmo Madden
Shafira Clemons
Adrienne Robbins
Mona Collins
Ezra Glass
Colette Roth
Cooper Anderson
Maggy Langley
Bert Chaney
Angela Snider
Ignacia Kane
Hyatt Galloway
Allen Chapman
Sebastian Vincent
Libby Valentine
Audra Britt
Willow Ferrell
Ifeoma Richardson
Philip Wise
Sierra Watkins
Yuli Hopkins
Tara Morse
Tyler Orr
Josiah Mayer
Chadwick Cherry
Ray Mcclain
Claire Delaney
Keely Riggs
Connor Powers
Jayme Curry
Mara Hebert
Nehru Crawford
Randall Holman
Claire Pate
Fritz Osborn
Tanner Hopkins
Gannon Bradley
Denise Mckenzie
Calvin Russo
Preston Davidson
Carissa Leach
Nasim Carson
Garrison Thomas
Melanie Trujillo
Martha Poole
Rahim Green
Jin Love
Nelle Hanson
Teagan Burnett
Gregory Cotton
Xavier Doyle
Karina Robbins
Holmes Alexander
Rigel Campos
Yasir Stokes
Constance Schwartz
Garth Ray
Plato Miranda
Ahmed Riggs
Lydia Murray
Emerald O'Neill
Mollie Robinson
Olympia Stephenson
Ivana Elliott
Hollee Parsons
Daquan Dale
Palmer Hensley
Hedda Hurst
Aidan Dickson
Vincent Camacho
Tasha Prince
Logan Williamson
Daryl Warren
Aquila French
Pearl Salas
Zachery Anderson
Brennan Mckinney
Zephania Allison
Ronan Pate
Karleigh Velez
Aaron Franklin
Eaton Freeman
Mason Molina
Gil Vega
Orlando Booker
Chanda Klein
Clio Kline
Karleigh Maddox
Adara Gay
Hilel Osborne
Cairo Ramirez
Slade Watts
Nevada Walter
Maite Baird
Leo Curtis
Jessica Hunter
Darryl Wagner
Laura Fletcher
Charles Briggs
Nevada Melendez
Mary Joyce
Candace Hardin
Hyatt Allen
Davis Foster
Dieter Pollard
Bo Rivas
Keefe Horn
Blaze Dale
Phoebe Jennings
Caleb Martin
Vernon Talley
Venus Petty
Cara Ewing
Bethany Haney
Flynn Nicholson
Celeste Macias
Paki Duncan
Amelia Matthews
Cruz Leblanc
Dylan Buchanan
Drew Forbes
Buffy Foley
Gage Bond
Cooper Anthony
Seth Walter
Whoopi Woodard
Candice Collins
Ila Mooney
Lucas Stephenson
Penelope Aguilar
Rigel Booth
Thaddeus Stevens
Amethyst Roberts
Hammett Osborne
Fitzgerald Hayes


Officer Name
Dillon Macias
Illana Ewing
Tad Cain
Uriah Simmons
Marshall Francis
Jerry Holman
Keelie Coleman
Amery Zamora
Jemima Herring
Ciaran Graham
Henry Austin
Trevor Cruz
Stephanie Gilbert
Wanda York
Morgan Cooley
Gabriel Clarke
Denise Buckner
Robin Gillespie
Latifah Richard
Carl Orr
Abraham Norton
Hop Leblanc
Maite Fletcher
Dylan Knox
Tucker Noble
Britanney Warren
Gavin Dillard
Cullen Mckinney
Audra Matthews
Hu Scott
Zoe Ross
Venus Shelton
Wyatt Boyd
Vanna Lowe
Colby Kelley
Hilary Ewing
Brandon Dotson
Walker Morales
Kelly Maynard
Silas Gilmore
Francesca Palmer
Gannon Christensen
Ciara Macias
Dana Cannon
September Gillespie
Shad Clemons
Sonia Mckenzie
Hedley Wilkerson
Brooke Becker
Ursula Berg
Leilani Carter
Cain Soto
Dora Stout
Henry Mcmahon
Hope Roth
Drew Peck
Shannon Kirkland
Kirk Hickman
Yvette Daugherty
Ahmed Hall
Mariam Moore
Tate Sykes
Harlan Buckley
Tamekah Romero
Meghan Gallegos
Dieter Lawrence
Carolyn Frye
Orla Tucker
Phyllis Tucker
Alana Watkins
Jack Pugh
Drew Sharp
Maya Romero
Mark Villarreal
Daria Vazquez
Helen Rutledge
Valentine Ferrell
Patrick Rush
Michelle Potts
Xantha Wolfe
Ulysses Church
Fitzgerald Rush
Desiree Mcleod
Ciaran Knox
Camille Adams
Samson Hays
Natalie Ashley
Lunea Klein
Camilla Lindsay
Sebastian Higgins
Hall Ramos
Griffin Kline
Lysandra Moran
Brianna Peterson
Rina Tyson
Aaron Ford
Scott Maxwell
Tarik Leach
Adele Hughes
Erasmus Mcgowan
Isaac Mejia
Destiny Chavez
Elizabeth House
Amethyst Booker
Brianna Bradley
Dolan Bowers
Kyle Lewis
Petra Wilkinson
Warren Kaufman
Zeus Rich
Jana Massey
Portia Pierce
Todd Palmer
Emily Sexton
Sheila Tanner
Kenneth Frazier
Abraham Patel
Willa Gregory
Kay Mcpherson
Shoshana Mccall
Florence Nieves
Lucas Diaz
Ainsley Branch
Devin Ayers
Drew Day
Cairo Witt
Lacota Kaufman
Margaret Calhoun
Alec Perry
MacKenzie Orr
Erica Powell
Vera Sellers
Clayton Brock
Stella Tyler
Blake Peck
Hayes Bishop
Abel Sandoval
Tanya Chandler
Lester Leon
Alfreda Gill
Judah Hopper
Wyoming Finley
Irma Mckenzie
Charde Cummings
Briar Hewitt
Rahim Mccarty
Omar Hester

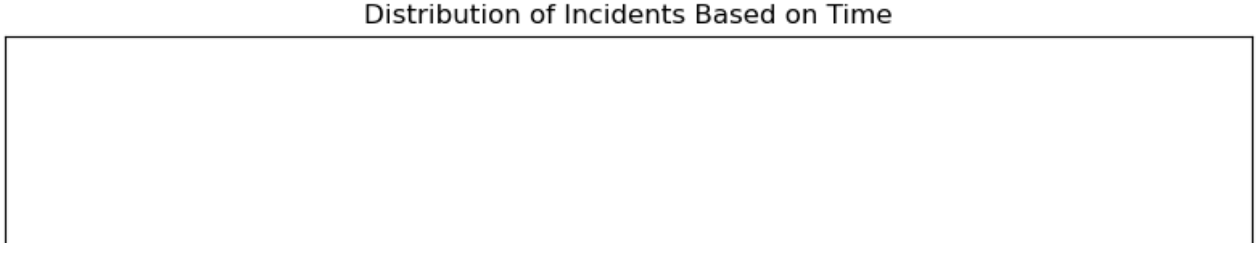

Heather Pugh
Gary Garza
Jonas Mooney
Cora Malone
Jasmine Sosa
Sylvester Holman
Holmes Clements
Nathaniel Griffith
Kirestin Hodges
Conan Barlow
Baxter Garrison
Uriah Macdonald
Caldwell Horton
Duncan Carlson
Nadine Church
Beck Jackson
Lillian Castillo
Lamar Sargent
Wade Knowles
Zena Terry
Nero Dickerson
Stewart Diaz
Evelyn Briggs
Mercedes Salinas
Zia Atkins
Caesar Ware
Kamal Shields
Eagan Higgins
Vivian Gallegos
Galvin Austin
Naomi Mckenzie
Octavia Wood
Basia Wall
Troy Vinson
Alika Henson
Benedict Robinson
Abra Klein
Paloma Levy
Joseph Rosario
Jack Wolfe
Burke Velez
Deborah Lowe
Jacqueline Briggs
Fletcher Farrell
Portia Gay
Constance Hunt
Brock Cherry
Quynn Rich
Hasad Mcbride
Althea Bonner
Fredericka Hicks
Amir Terrell
Baker Gilliam
Garth Macdonald
Ryan Garza
Jeanette Bradford
Yael Best
Tad Sampson
Theodore Bond
Scarlet Washington
Eve Howard
Berk Robles
Kirestin Peck
Prescott Maynard
Bruce Bolton
Jamalia Koch
Griffith Wright
Neve Perkins
Rylee Richard
Teegan Ramos
Diana Chavez
Teegan David
Sybill Fields
Maisie Hawkins
Jemima Myers
Freya Bowers
Jonah Anthony
Brynne Pope
Sydnee Ballard
Bo Mann
Irene Aguirre
Forrest Gordon
Lynn Gillespie
Mark Grant
Lois Ball
Penelope Fox
Jelani Cochran
Jakeem Robles
Josephine Buckner
Wing Bennett
Damian Hahn
Sybill Stark
Guy Sparks
Jordan Holmes
Angelica Padilla
Bell Bailey
Kadeem Alvarez
Cheryl Mccall
Rowan Guzman
Phillip Grimes
Maggy Morse
Linda Elliott
Ezra Jefferson
Hamilton Pollard
Pamela Estrada
Clementine Cruz
Arden Hart
Charles Roach
Gavin Jordan
Allistair Craig
Sybill Chapman
Zeph Wolf
Sonya Mccullough
Vladimir Rivas
Vincent Malone
Patrick Holman
April Barry
Jerome Hester
Wesley Shelton
Dara Hughes
Beck Lancaster
Samuel Murray
Iliana Wong
Graiden Trujillo
Harper Santos
Elton Grimes
Hall Hobbs
Quemby Cotton
Igor Mercer
Ashton Mccullough
Maya Figueroa
Tatyana Moreno
Kelsie York
Ramona Maxwell
Jaime Gould
Lester Stafford
Tatyana Sheppard
Keane Valencia
Solomon Andrews
Ayanna Brady
Jack Bell
Andrew Jarvis
Cheryl Green
Uriel Peters
Lewis Bird
Ferris Barrera

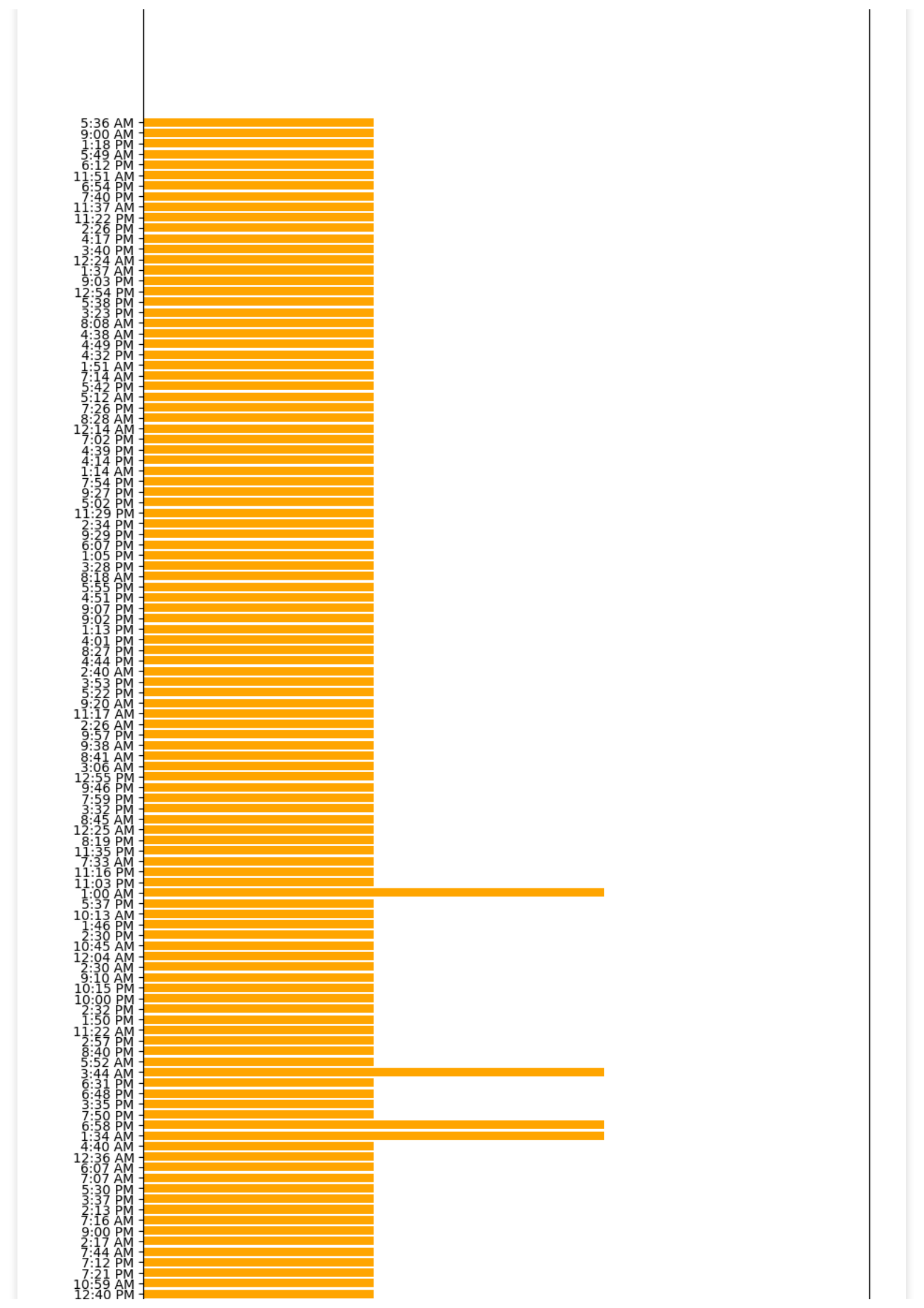


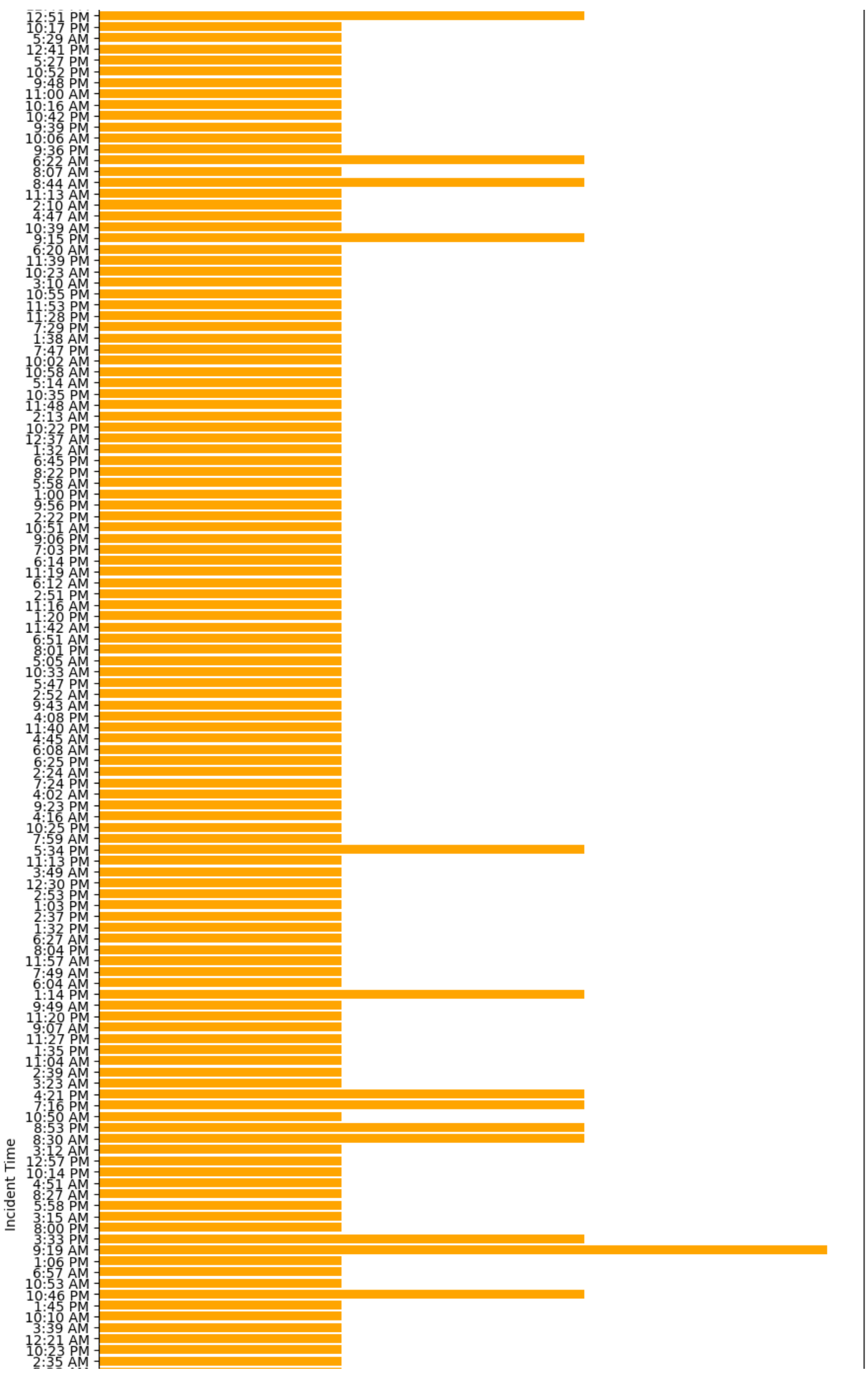
In [47]:

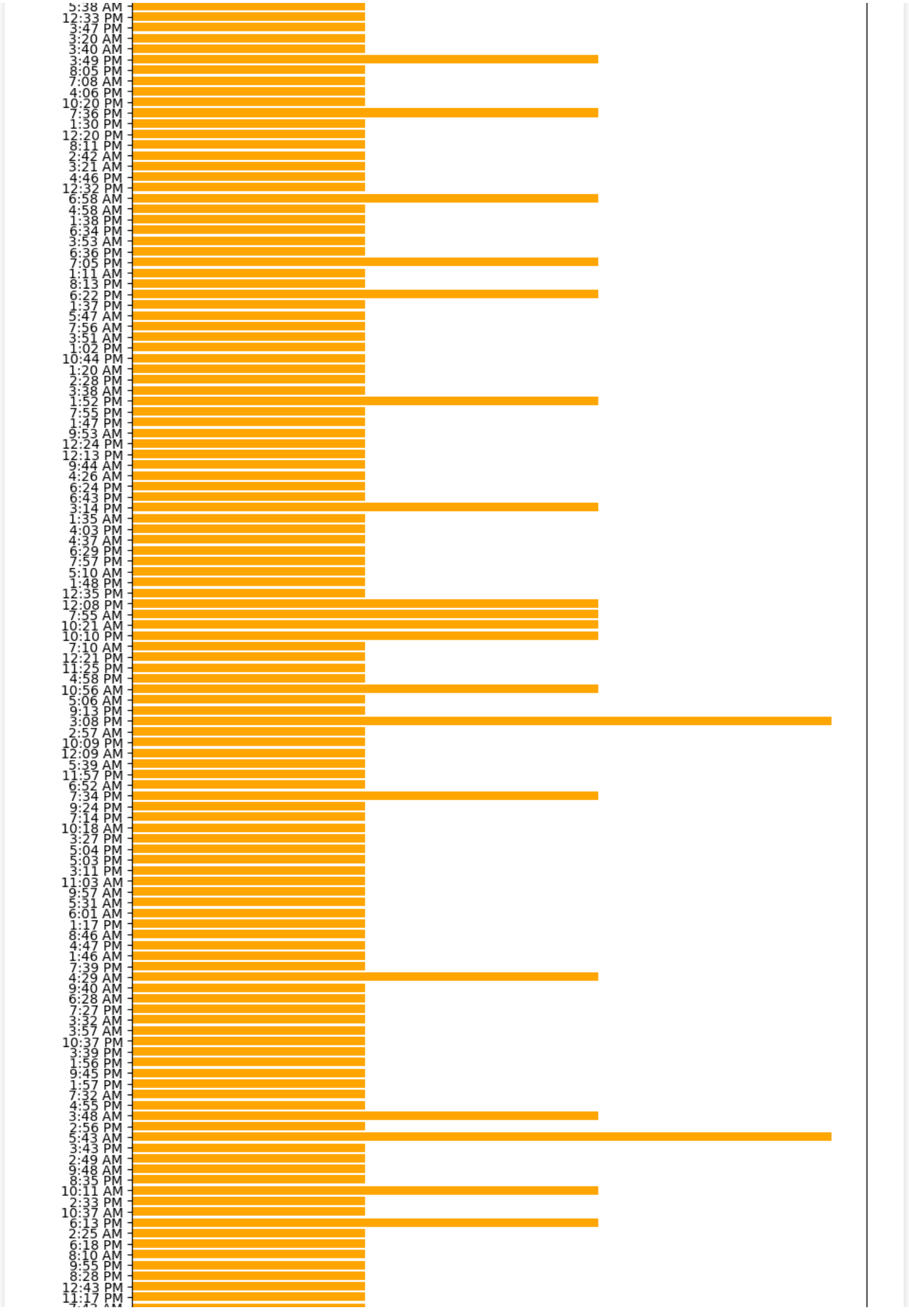
```
import mysql.connector
conn = mysql.connector.connect (host='localhost', password='Iamironman2!', user= 'root')

if conn.is_connected():
 print("Conncetion established...")


from mysql.connector import Error

connection = mysql.connector.connect(host='localhost',
database='rms1',
user='root',
password='Iamironman2!',
auth_plugin = 'mysql_native_password')
if connection.is_connected():
    db_Info = connection.get_server_info()
print("Connected to MySQL Server version ", db_Info)
cursor = connection.cursor()
cursor.execute("select database();")
record = cursor.fetchone()
print("Your connected to database: ", record)


cursor = connection.cursor()
query = "SELECT IncidentTime, COUNT(*) FROM incidents GROUP BY IncidentTime"
cursor.execute(query)
results = cursor.fetchall()
cursor.close()
connection.close()
incident_times, incident_counts = zip(*results)

plt.figure(figsize=(10, 70))
plt.barh(incident_times, incident_counts, color='orange')  # Use barh for horizontal bar
chart
plt.ylabel('Incident Time')
plt.xlabel('Number of Incidents')
plt.title('Distribution of Incidents Based on Time')
plt.show()
```

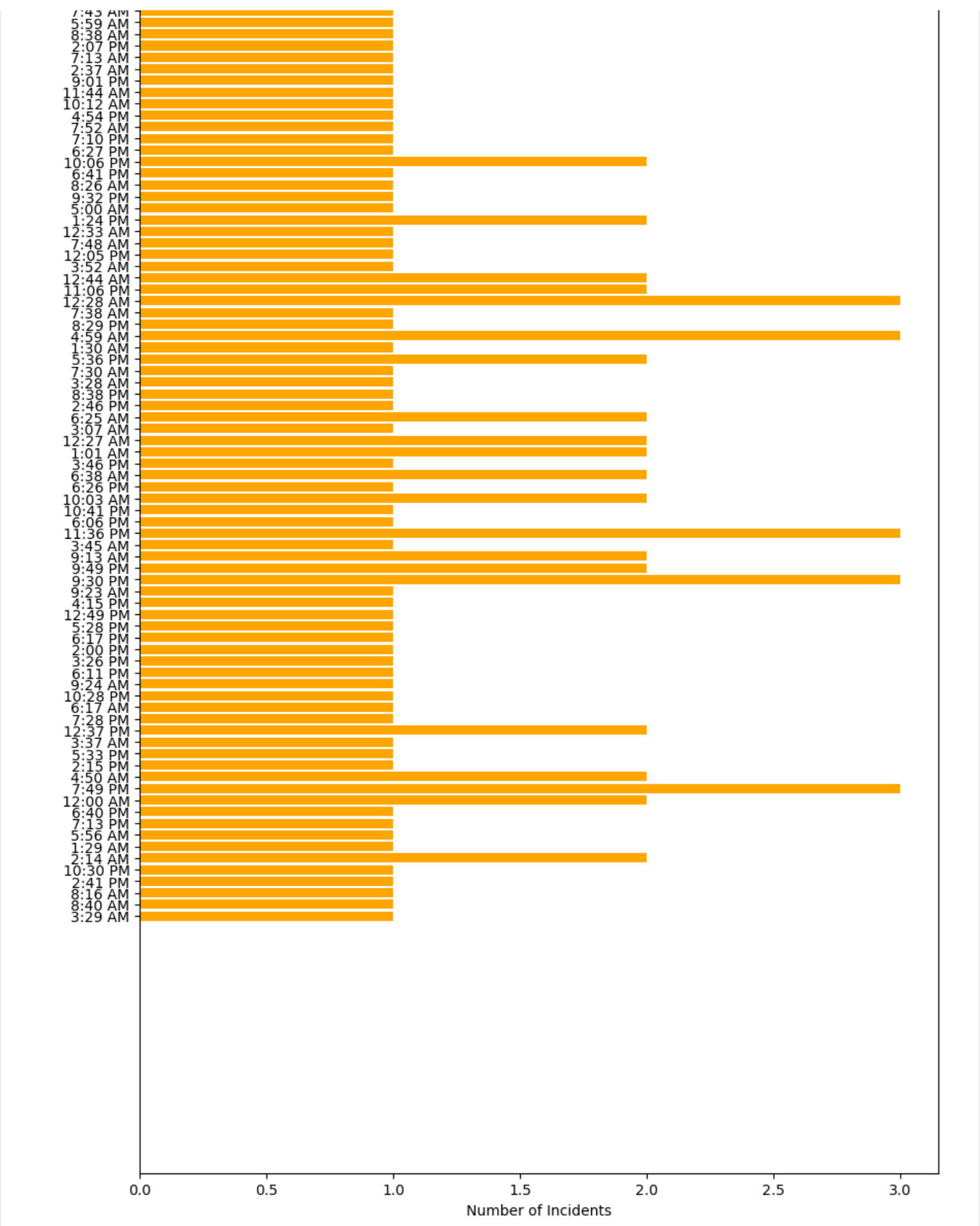
```
Conncetion established...
Connected to MySQL Server version  8.0.35
Your connected to database:  ('rms1',)
```




5:36 AM
9:00 AM
1:18 PM
5:49 AM
6:12 PM
11:51 AM
6:54 PM
7:40 PM
11:37 AM
11:22 PM
2:26 PM
4:17 PM
3:40 PM
12:24 AM
1:37 AM
9:03 PM
12:54 PM
5:38 PM
3:23 PM
8:08 AM
4:38 AM
4:49 PM
4:32 PM
1:51 AM
7:14 AM
5:42 PM
5:12 AM
7:26 PM
8:28 AM
12:14 AM
7:02 PM
4:39 PM
4:14 PM
1:14 AM
7:54 PM
9:27 PM
5:02 PM
11:29 PM
2:34 PM
9:29 PM
6:07 PM
1:05 PM
3:28 PM
8:18 AM
5:55 PM
4:51 PM
9:07 PM
9:02 PM
1:13 PM
4:01 PM
8:27 PM
4:44 PM
2:40 AM
3:53 PM
5:22 PM
9:20 AM
11:17 AM
2:26 AM
9:57 PM
9:38 AM
8:41 AM
3:06 AM
12:55 PM
9:46 PM
7:59 PM
3:32 PM
8:45 AM
12:25 AM
8:19 PM
11:35 PM
7:33 AM
11:16 PM
11:03 PM
1:00 AM
5:37 PM
10:13 AM
1:46 PM
2:30 PM
10:45 AM
12:04 AM
2:30 AM
9:10 AM
10:15 PM
10:00 PM
2:32 PM
1:50 PM
11:22 AM
2:57 PM
8:40 PM
5:52 AM
3:44 AM
6:31 PM
6:48 PM
3:35 PM
7:50 PM
6:58 PM
1:34 AM
4:40 AM
12:36 AM
6:07 AM
7:07 AM
5:30 PM
3:37 PM
2:13 PM
7:16 AM
9:00 PM
2:17 AM
7:44 AM
7:12 PM
7:21 PM
10:59 AM
12:40 PM


Incident Time
12:51 PM
10:17 PM
5:29 AM
12:41 PM
5:27 PM
10:52 PM
9:48 PM
11:00 AM
10:16 AM
10:42 PM
9:39 PM
10:06 AM
9:36 PM
6:22 AM
8:07 AM
8:44 AM
11:13 AM
2:10 AM
4:47 AM
10:39 AM
9:15 PM
6:20 AM
11:39 PM
10:23 AM
3:10 AM
10:55 PM
11:53 PM
11:28 PM
7:29 PM
1:38 AM
7:47 PM
10:02 AM
10:58 AM
5:14 AM
10:35 PM
11:48 AM
2:13 AM
10:22 PM
12:37 AM
1:32 AM
6:45 PM
8:22 PM
5:58 AM
1:00 PM
9:56 PM
2:22 PM
10:51 AM
9:06 PM
7:03 PM
6:14 PM
11:19 AM
6:12 AM
2:51 PM
11:16 AM
1:20 PM
11:42 AM
6:51 AM
8:01 PM
5:05 AM
10:33 AM
5:47 PM
2:52 AM
9:43 AM
4:08 PM
11:40 AM
4:45 AM
6:08 AM
6:25 PM
2:24 AM
7:24 PM
4:02 AM
9:23 PM
4:16 AM
10:25 PM
7:59 AM
5:34 PM
11:13 PM
3:49 AM
12:30 PM
2:53 PM
1:03 PM
2:37 PM
1:32 PM
6:27 AM
8:04 PM
11:57 AM
7:49 AM
6:04 AM
1:14 PM
9:49 AM
11:20 PM
9:07 AM
11:27 PM
1:35 PM
11:04 AM
2:39 AM
3:23 AM
4:21 PM
7:16 PM
10:50 AM
8:53 PM
8:30 AM
3:12 AM
12:57 PM
10:14 PM
4:51 AM
8:27 AM
5:58 PM
3:15 AM
8:00 PM
3:33 PM
9:19 AM
1:06 PM
6:57 AM
10:53 AM
10:46 PM
1:45 PM
10:10 AM
3:39 AM
12:21 AM
10:23 PM
2:35 AM


5:38 AM
12:33 PM
3:47 PM
3:20 AM
3:40 AM
3:49 PM
8:05 PM
7:08 AM
4:06 PM
10:20 PM
7:36 PM
1:30 PM
12:20 PM
8:11 PM
2:42 AM
3:21 AM
4:46 PM
12:32 PM
6:58 AM
4:58 AM
1:38 PM
6:34 PM
3:53 AM
6:36 PM
7:05 PM
1:11 AM
8:13 PM
6:22 PM
1:37 PM
5:47 AM
7:56 AM
3:51 AM
1:02 PM
10:44 PM
1:20 AM
2:28 PM
3:38 AM
1:52 PM
7:55 PM
1:47 PM
9:53 AM
12:24 PM
12:13 PM
9:44 AM
4:26 AM
6:24 PM
6:43 PM
3:14 PM
1:35 AM
4:03 PM
4:37 AM
6:29 PM
7:57 PM
5:10 AM
1:48 PM
12:35 PM
12:08 PM
7:55 AM
10:21 AM
10:10 PM
7:10 AM
12:21 PM
11:25 PM
4:58 PM
10:56 AM
5:06 AM
9:13 PM
3:08 PM
2:57 AM
10:09 PM
12:09 AM
5:39 AM
11:57 PM
6:52 AM
7:34 PM
9:24 PM
7:14 PM
10:18 AM
3:27 PM
5:04 PM
5:03 PM
3:11 PM
11:03 AM
9:57 AM
5:31 AM
6:01 AM
1:17 PM
8:46 AM
4:47 PM
1:46 AM
7:39 PM
4:29 AM
9:40 AM
6:28 AM
7:27 PM
3:32 AM
3:57 AM
10:37 PM
3:39 PM
1:56 PM
9:45 PM
1:57 PM
7:32 AM
4:55 PM
3:48 AM
2:56 PM
5:43 AM
3:43 PM
2:49 AM
9:48 AM
8:35 PM
10:11 AM
2:33 PM
10:37 AM
6:13 PM
2:25 AM
6:18 PM
8:10 AM
9:55 PM
8:28 PM
12:43 PM
11:17 PM


7:43 AM
5:59 AM
8:38 AM
2:07 PM
7:13 AM
2:37 AM
9:01 PM
11:44 AM
10:12 AM
4:54 PM
7:52 AM
7:10 PM
6:27 PM
10:06 PM
6:41 PM
8:26 AM
9:32 PM
5:00 AM
1:24 PM
12:33 AM
7:48 AM
12:05 PM
3:52 AM
12:44 AM
11:06 PM
12:28 AM
7:38 AM
8:29 PM
4:59 AM
1:30 AM
5:36 PM
7:30 AM
3:28 AM
8:38 PM
2:46 PM
6:25 AM
3:07 AM
12:27 AM
1:01 AM
3:46 PM
6:38 AM
6:26 PM
10:03 AM
10:41 PM
6:06 PM
11:36 PM
3:45 AM
9:13 AM
9:49 PM
9:30 PM
9:23 AM
4:15 PM
12:49 PM
5:28 PM
6:17 PM
2:00 PM
3:26 PM
6:11 PM
9:24 AM
10:28 PM
6:17 AM
7:28 PM
12:37 PM
3:37 AM
5:33 PM
2:15 PM
4:50 AM
7:49 PM
12:00 AM
6:40 PM
7:13 PM
5:56 AM
1:29 AM
2:14 AM
10:30 PM
2:41 PM
8:16 AM
8:40 AM
3:29 AM
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Number of Incidents