In [6]:
```
import numpy as np
import matplotlib.pyplot as plt
```

In [7]:
```
fileName = "Data.txt"
```

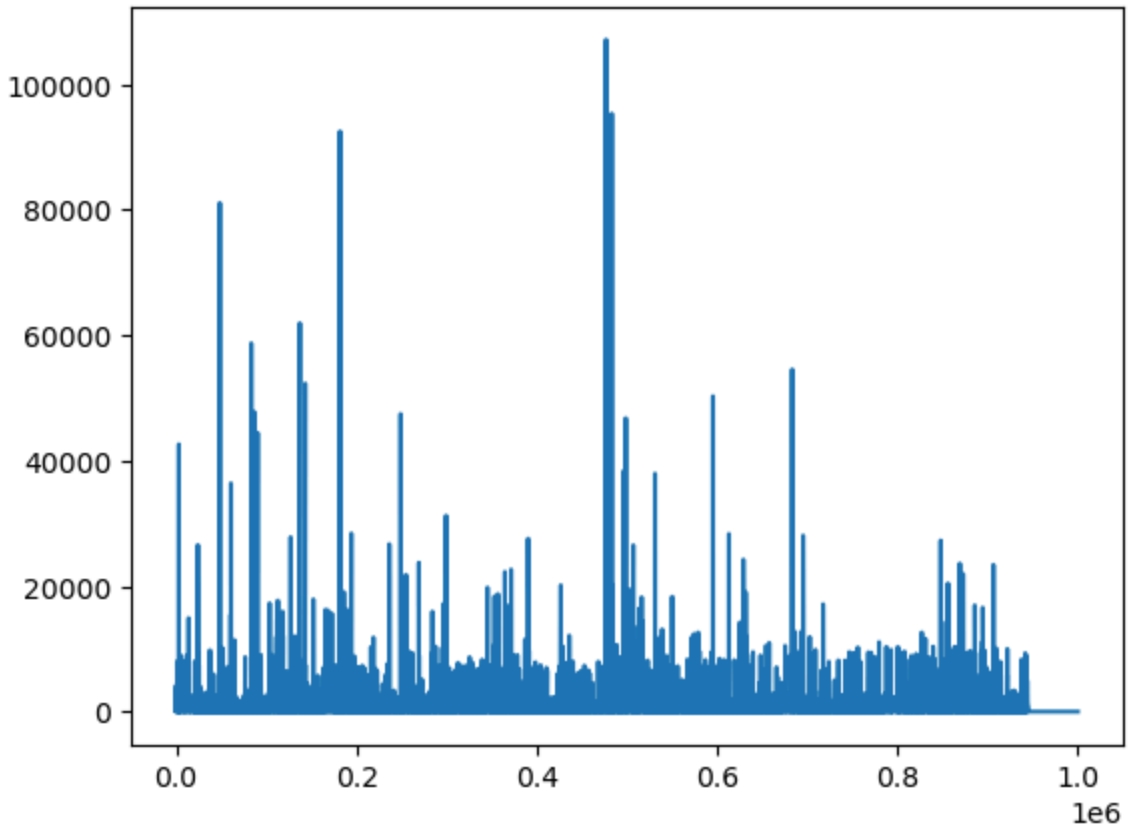
In [8]:
```
with open(fileName, "r") as file_object:
    data = file_object.read()
```

In [28]:
```
timeInt = [0]*1000000
methodName = "GetSingleInfo"
n = len(data)
print(f"n = {n}")
start = 0
i = 0
buf = ""
iter = 0
while i <n:
    if data[i].isdigit():
        buf+=data[i]
    else:
        timeInt[iter] = int(buf)
        buf = ""
        iter +=1
    i+=1
```

```
n = 3502595
```

In [35]:
```
plt.plot([i for i in range(len(timeInt))],timeInt)
```

Out[35]:
```
[<matplotlib.lines.Line2D at 0x105dccb90>]
```



In [36]:
```
print(timeInt[0])
```

```
666
```

In [39]:
```
print(sum(timeInt)/len(timeInt))
```

```
154.480485
```

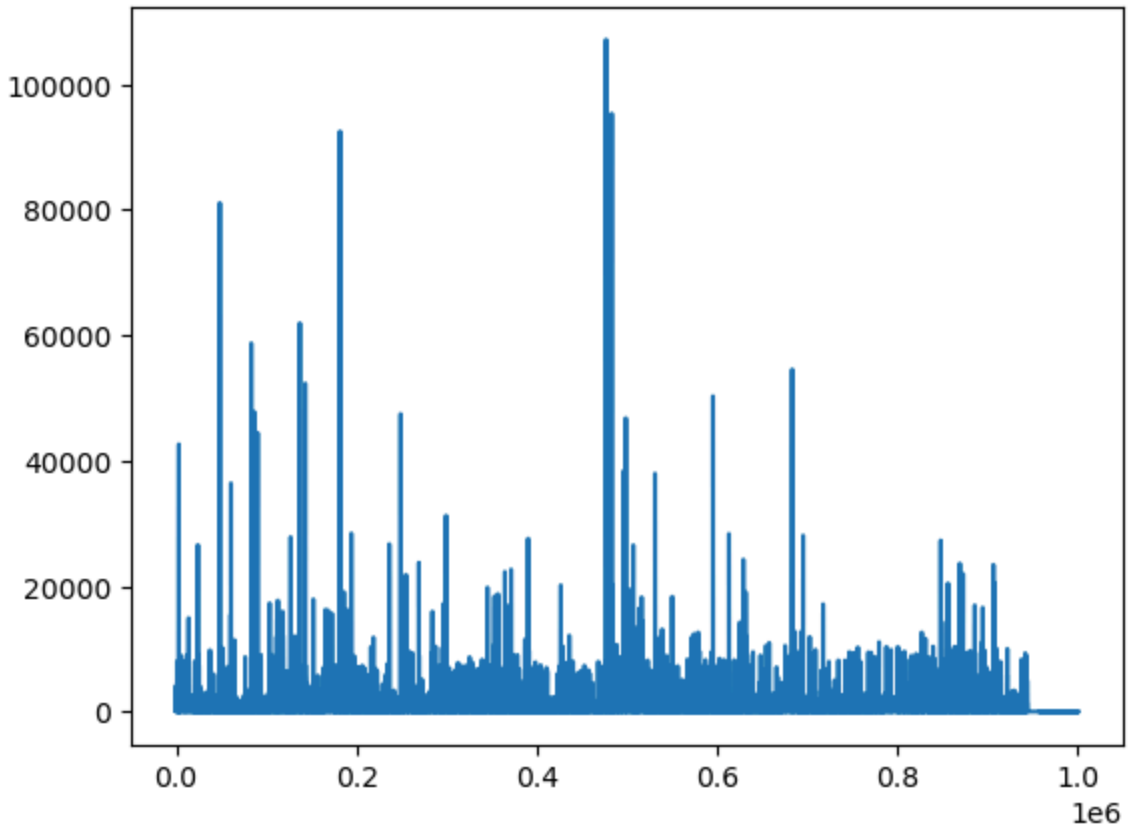
In [43]:
```
newdata = [i for i in timeInt]
```

In [45]:
```
print(np.random.normal(newdata))
```

```
[ 6.66099415e+02  3.75862765e+02  2.06968885e+02 ... -9.90873110e-01
 -1.48226240e+00  2.95896306e-01]
```

In [46]:
```
plt.plot(np.random.normal(newdata))
```

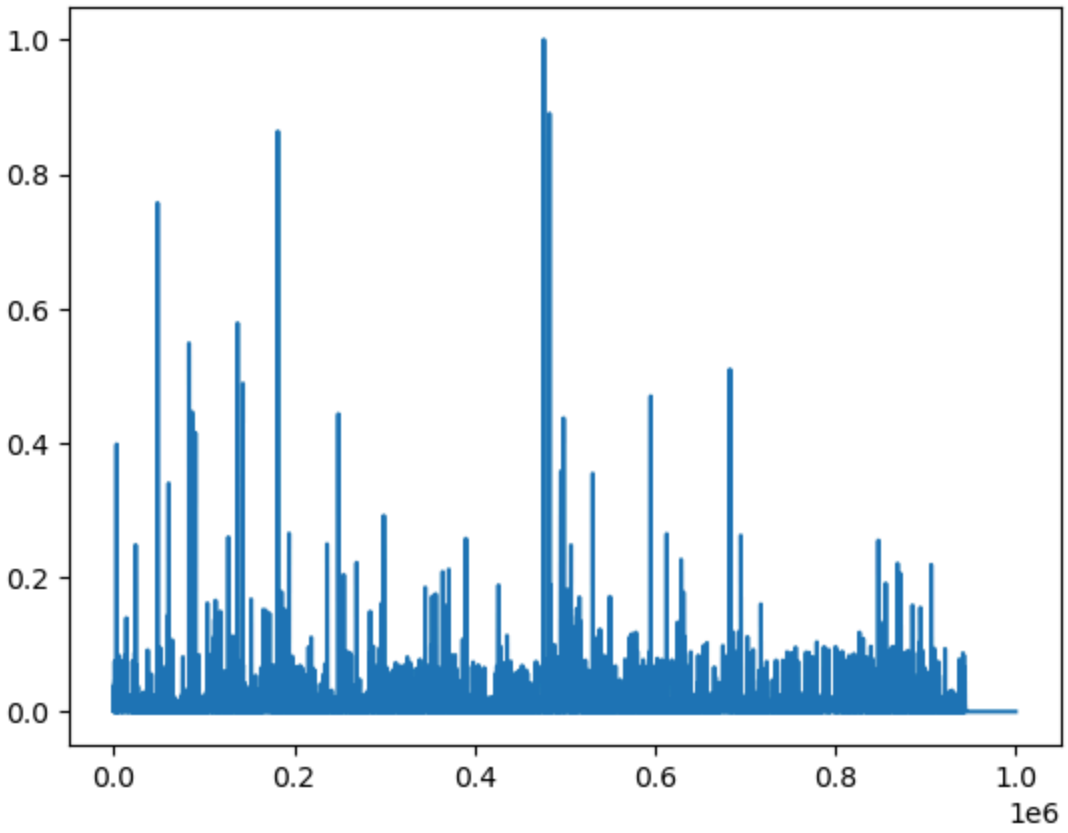
Out[46]:
```
[<matplotlib.lines.Line2D at 0x107414090>]
```

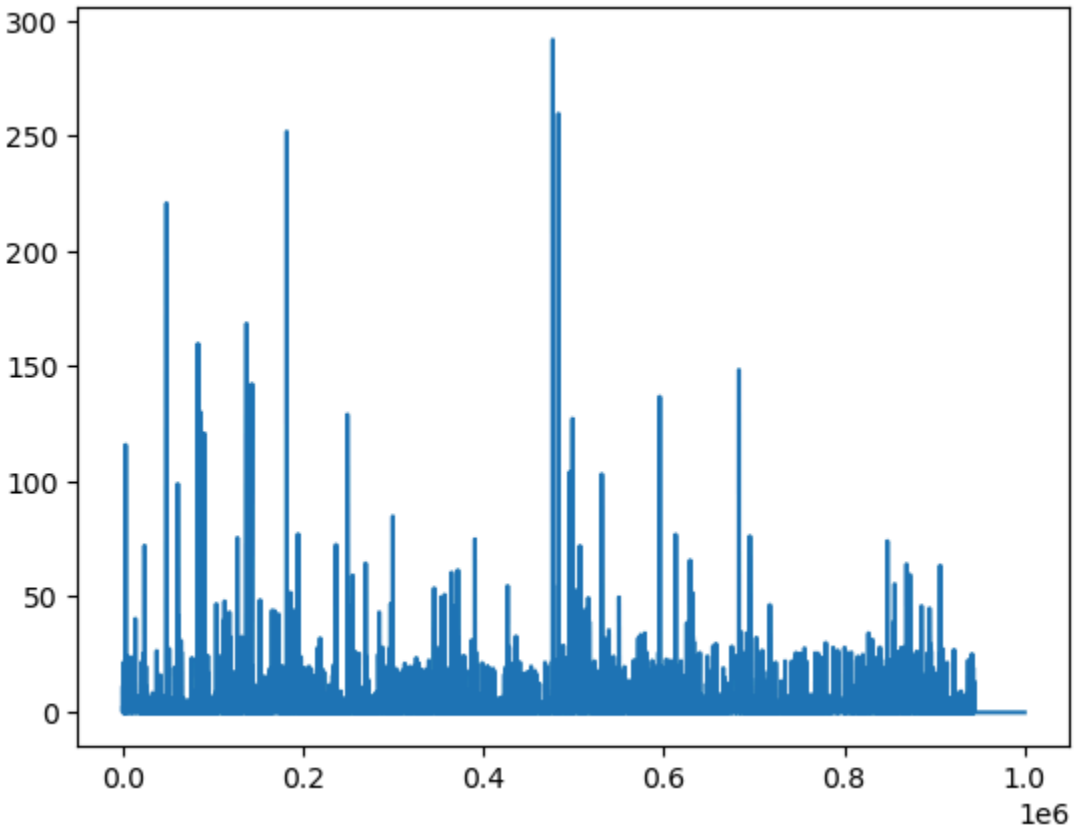


In [47]:
```
from sklearn.preprocessing import MinMaxScaler, StandardScaler
```

In [54]:
```
newdata = np.array(newdata)
newdata = newdata.reshape(-1,1)
```

In [60]:
```
minmaxscaler = MinMaxScaler()
data_min_max = minmaxscaler.fit_transform(newdata)
plt.plot(data_min_max)
plt.show()
standart_scaler = StandardScaler()
data_standard = standart_scaler.fit_transform(newdata)
plt.plot(data_standard)
plt.show()
```





In [61]:
```
newdata2 = [i for i in timeInt]
```

In [65]:
```
avg = np.mean(newdata2)
print(avg)
```

```
154.480485
```

In [71]:
```
median = np.median(newdata)
print(median)
```

```
125.0
```

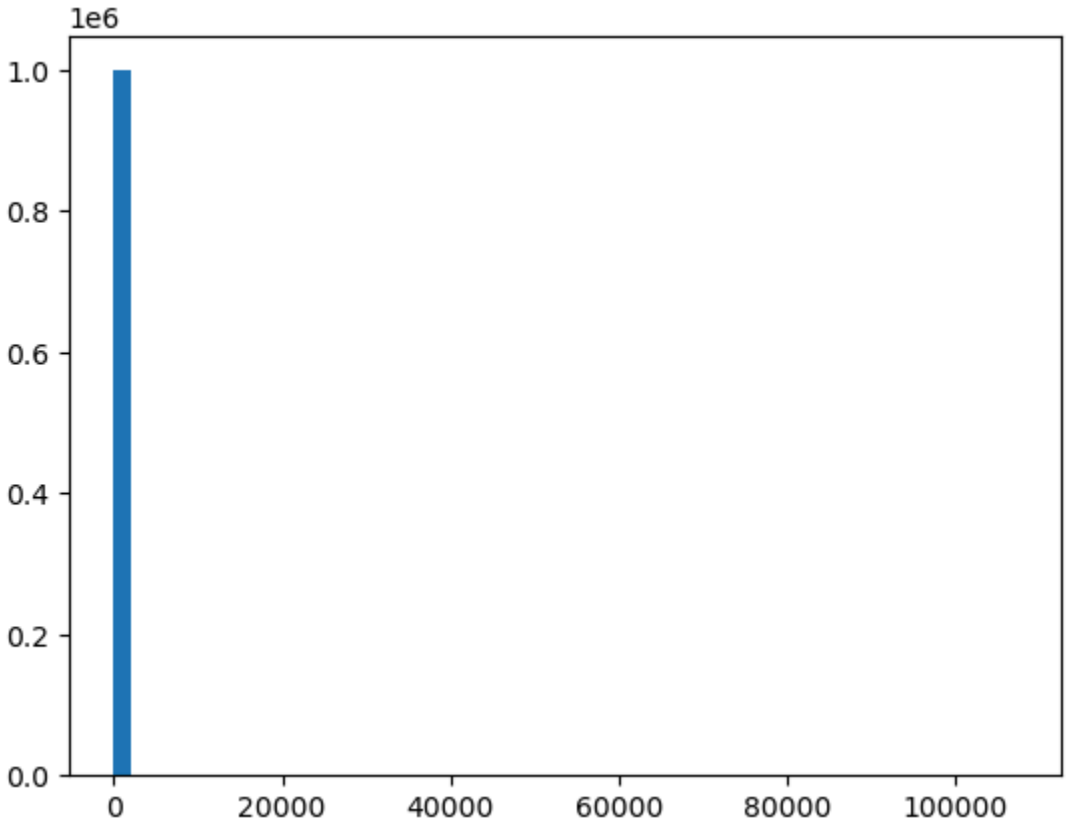
In [72]:
```
print(np.std(newdata))
```

```
366.66454524969373
```

In [73]:
```
print(np.percentile(newdata,90))
```

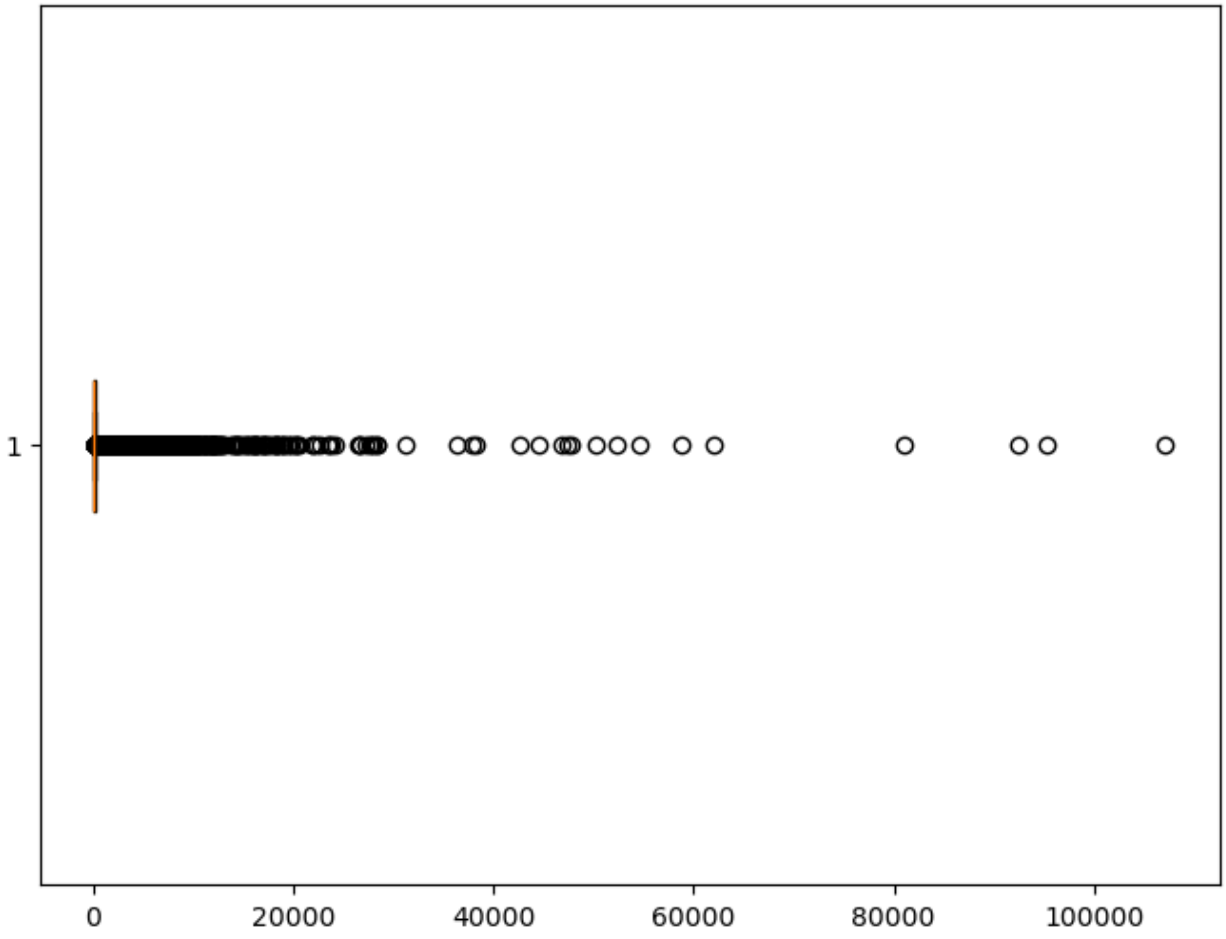
```
209.0
```

In [75]:
```
plt.hist(newdata,bins=50)
plt.show()
```



In [77]:
```
plt.figure(figsize=(8,6))
plt.boxplot(newdata,vert=False,patch_artist=True)
```

Out[77]:
```
{'whiskers': [<matplotlib.lines.Line2D at 0x137c47c50>,
  <matplotlib.lines.Line2D at 0x137c46310>],
 'caps': [<matplotlib.lines.Line2D at 0x137c45a90>,
  <matplotlib.lines.Line2D at 0x137c46f50>],
 'boxes': [<matplotlib.patches.PathPatch at 0x1377e30d0>],
 'medians': [<matplotlib.lines.Line2D at 0x1377fb2d0>],
 'fliers': [<matplotlib.lines.Line2D at 0x1377f97d0>],
 'means': []}
```



In [ ]: