```python
                                                    #GE ASSIGNMENT 4
import pandas as pd
import matplotlib.pyplot as plt


#1.The above table shows sales record of two products, Product 1 and Product 2,
print("\nSALES RECORD OF TWO PRODUCTS\n")
dates = pd.date_range(start='2023-04-10', end='2023-04-16')
sales = {'Product1': [100, 70, 82, 125, 65, 30, 50],
         'Product2': [20, 78, 65, 100, 50, 80, 55]}
df = pd.DataFrame(sales, index=dates)
print(df)

# plot line plot (scatter plot)
df.plot(style='.-', figsize=(8,5))
plt.title('Sales Record')
plt.xlabel('Date')
plt.ylabel('Sales')
plt.show()
print("\n")

# plot bar plot
df.plot(kind='bar', figsize=(8,5))
plt.title('Sales Record')
plt.xlabel('Date')
plt.ylabel('Sales')
plt.show()
print("\n")
```

```
# plot bar plot
df.plot(kind='bar', figsize=(8,5))
plt.title('Sales Record')
plt.xlabel('Date')
plt.ylabel('Sales')
plt.show()
print("\n")

# plot area plot
df.plot(kind='area', figsize=(8,5))
plt.title('Sales Record')
plt.xlabel('Date')
plt.ylabel('Sales')
plt.show()
print("\n")

# plot pie chart for Product 1 sales
df['Product1'].plot(kind='pie', figsize=(5,5))
plt.title('Product 1 Sales')
plt.ylabel('')
plt.show()
```

SALES RECORD OF TWO PRODUCTS

	Product1	Product2
2023-04-10	100	20
2023-04-11	70	78
2023-04-12	82	65
2023-04-13	125	100
2023-04-14	65	50
2023-04-15	30	80
2023-04-16	50	55


Figure 1
Sales Record
Product1
Product2
Sales
120
100
80
60
40
20
10
Apr
2023
11
12
13
14
15
16

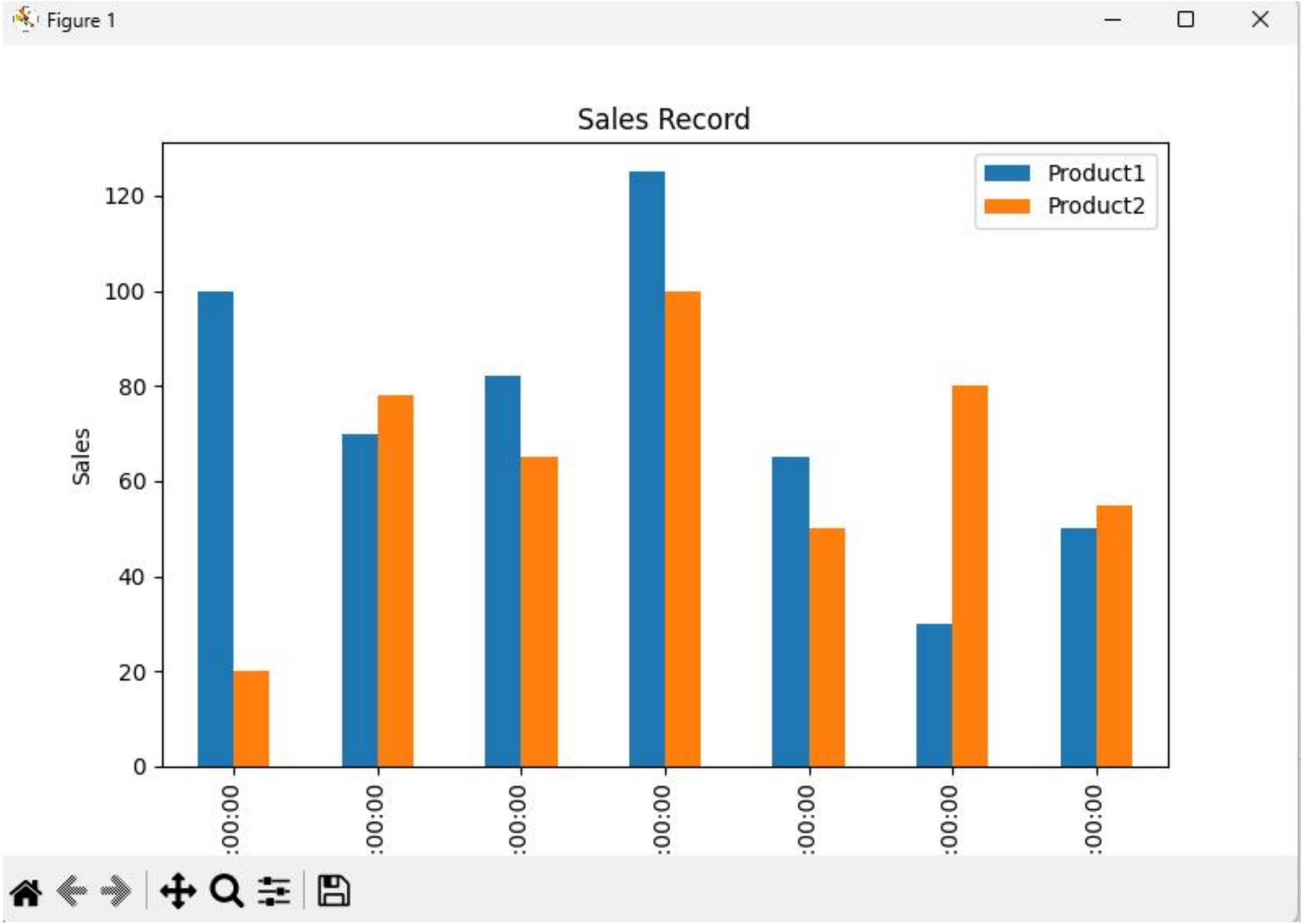
Figure 1
Sales Record
Product1
Product2
Sales
120
100
80
60
40
20
0
:00:00
:00:00
:00:00
:00:00
:00:00
:00:00
:00:00

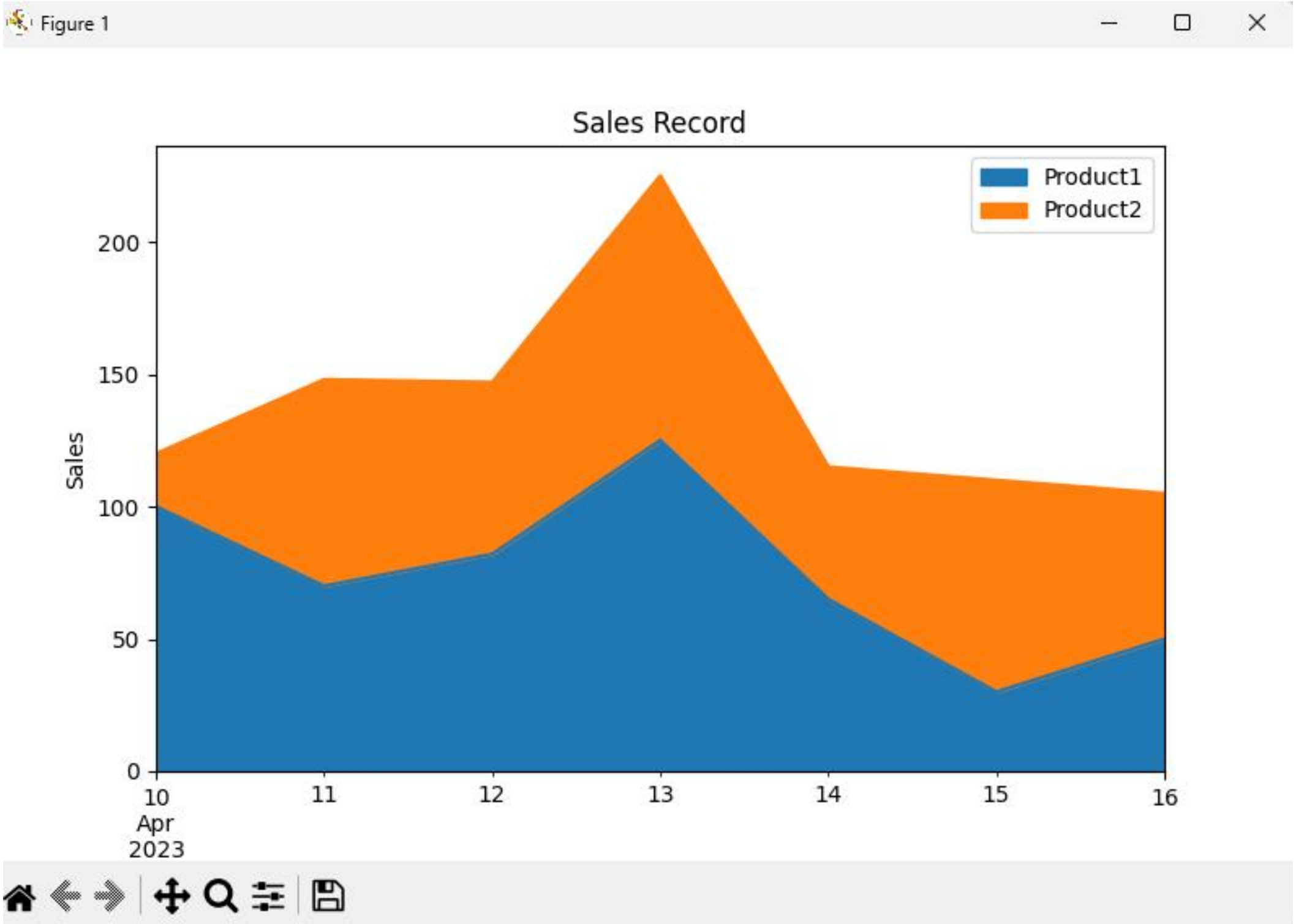
Figure 1
Sales Record
Product1
Product2
Sales
200
150
100
50
0
10
Apr
2023
11
12
13
14
15
16

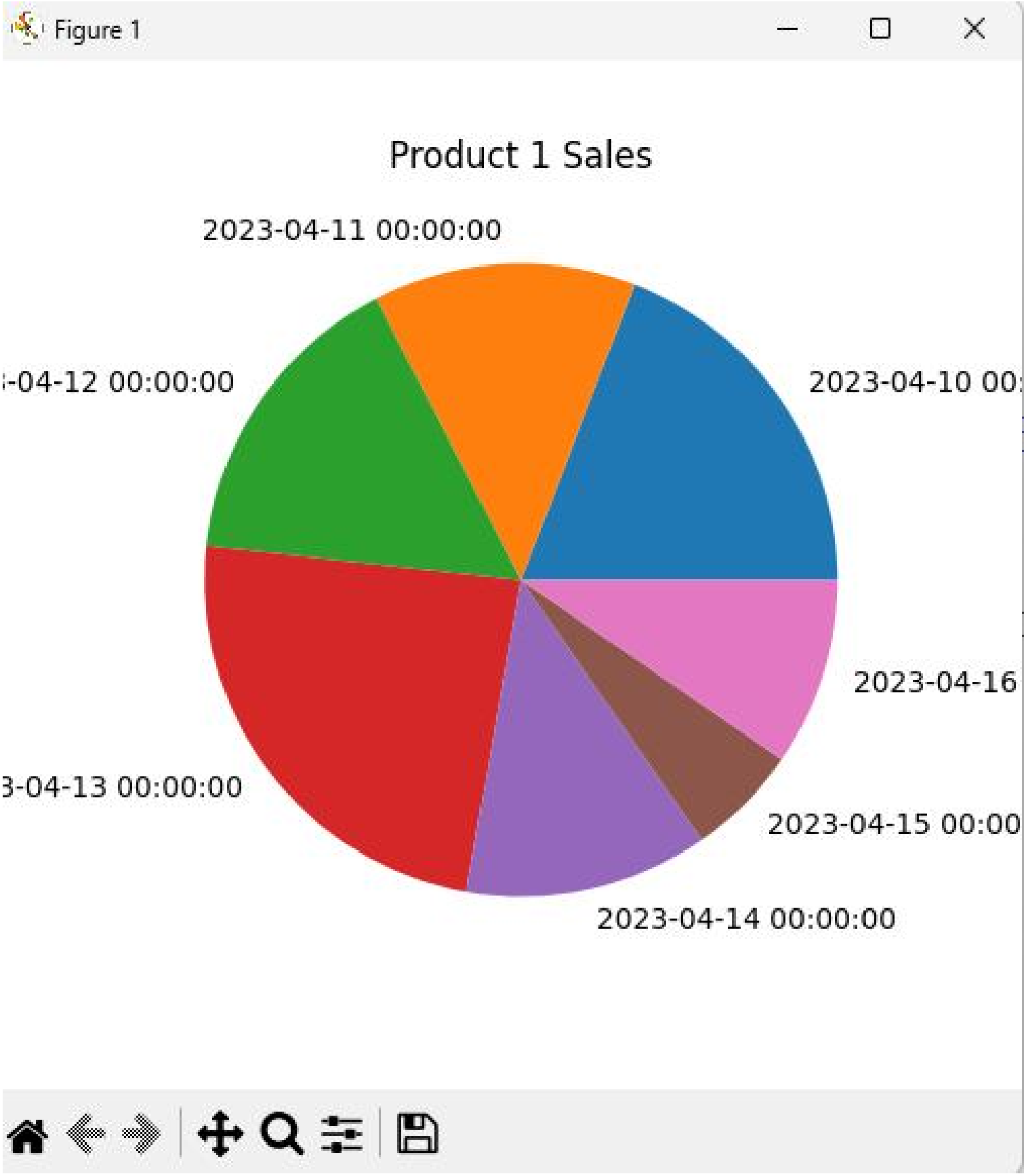
Figure 1
Product 1 Sales
2023-04-11 00:00:00
-04-12 00:00:00
2023-04-10 00:
2023-04-16
3-04-13 00:00:00
2023-04-15 00:00
2023-04-14 00:00:00

```
#2.The above table shows Report Card of STUDENT ,displaying marks scored by the student:
print("\nREPORT CARD OF STUDENTS\n")
StudentData = {'SUBJECTS':['ENGLISH', 'MATHS', 'SCIENCE', 'FRENCH',],
'2018':[85,73,98,88],
'2019': [60,80,58,96],
'2020':[90,64,74,87]}
data = pd.DataFrame(StudentData)
print(data)
print("\nAFTER  ADDING INFORMATION\n")
data.loc['Total'] = [' ', data['2018'].sum(), data['2019'].sum(), data['2020'].sum()]
data.loc['Percentage'] = [' ', (data['2018'].sum())/8, (data['2019'].sum())/8, (data['2020'].sum())/8]
print(data)


data.plot(marker='X', ms=15,mec='r',mfc='r',color='r',linestyle='--',label='Makers',figsize=(5,5))
plt.xlabel('MARKS')
plt.ylabel('YEAR')
plt.legend(loc='lower center')
plt.show()

data.plot.area(color='b',label='Marks',figsize=(5,5))
plt.xlabel('MARKS')
plt.ylabel('YEAR')
plt.legend(loc='lower center')
plt.show()
```

```
data.plot(marker='X', ms=15,mec='r',mfc='r',color='r',linestyle='--',label='Makers',figsize=(5,5))
plt.xlabel('MARKS')
plt.ylabel('YEAR')
plt.legend(loc='lower center')
plt.show()

data.plot.area(color='b',label='Marks',figsize=(5,5))
plt.xlabel('MARKS')
plt.ylabel('YEAR')
plt.legend(loc='lower center')
plt.show()

data.plot.bar(color='c',label='Marks',figsize=(3,3))
plt.xlabel('MARKS')
plt.ylabel('YEAR')
plt.legend(loc='lower center')
plt.show()
```

```
data.plot.bar(color='c',label='Marks',figsize=(3,3))
plt.xlabel('MARKS')
plt.ylabel('YEAR')
plt.legend(loc='lower center')
plt.show()

data.plot.barh(color='c',label='Marks',figsize=(3,3))
plt.xlabel('MARKS')
plt.ylabel('YEAR')
plt.legend(loc='lower center')
plt.show()

data.plot.box(color='m',label='product ID',figsize=(3,3))
plt.ylabel('YEAR')
plt.show()

data.plot.hist(bins=6,figsize=(3,3))
plt.ylabel('YEAR')
plt.show()

data['2018'].plot.pie(autopct='%1.2f%%',figsize=(3,3))
plt.ylabel('YEAR')
plt.show()
```

REPORT CARD OF STUDENTS

	SUBJECTS	2018	2019	2020
0	ENGLISH	85	60	90
1	MATHS	73	80	64
2	SCIENCE	98	58	74
3	FRENCH	88	96	87

AFTER ADDING INFORMATION

	SUBJECTS	2018	2019	2020
0	ENGLISH	85.0	60.0	90.00
1	MATHS	73.0	80.0	64.00
2	SCIENCE	98.0	58.0	74.00
3	FRENCH	88.0	96.0	87.00
Total		344.0	294.0	315.00
Percentage		86.0	73.5	78.75

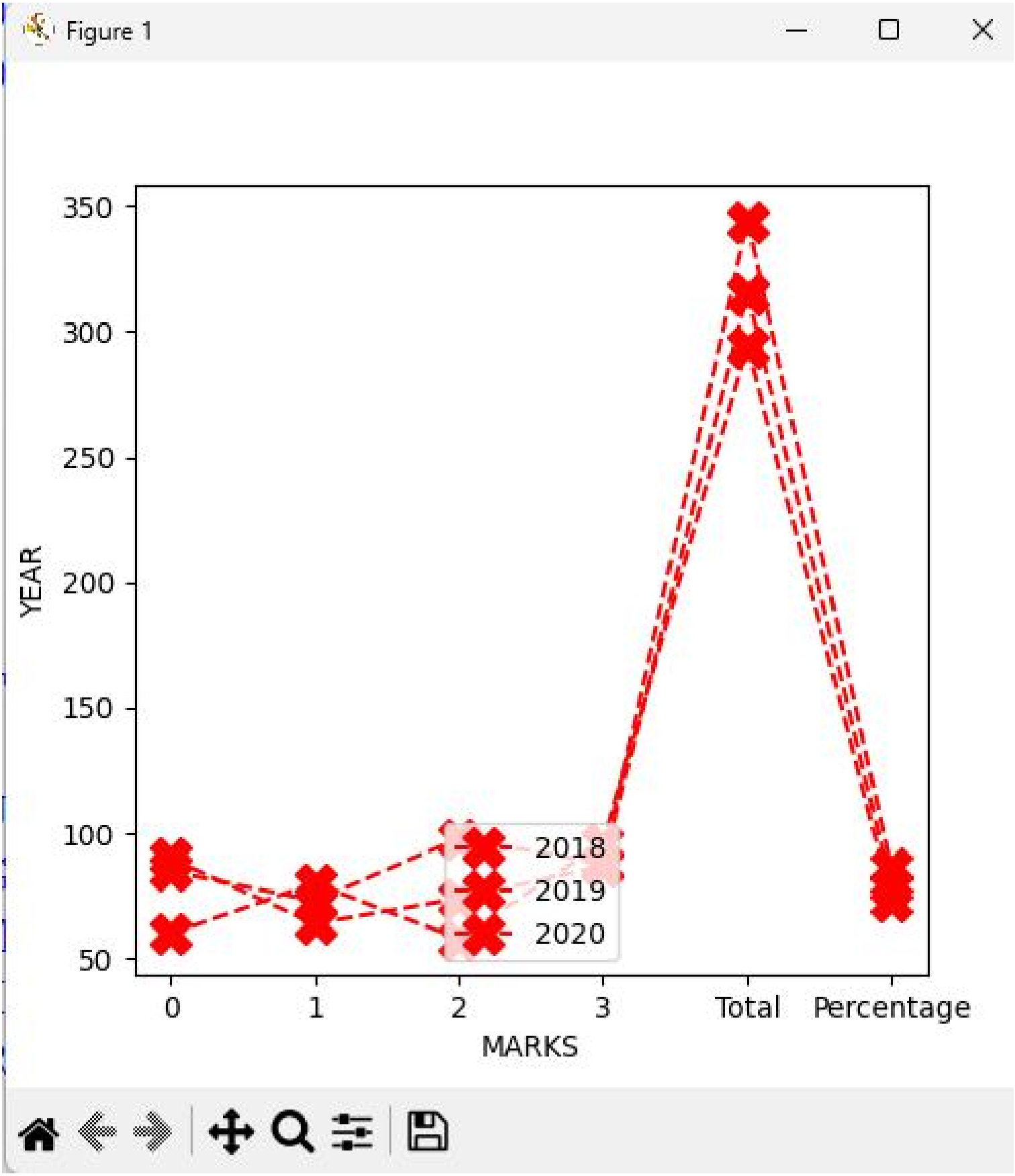
Figure 1
350
300
250
200
150
100
50
YEAR
2018
2019
2020
0
1
2
3
Total
Percentage
MARKS

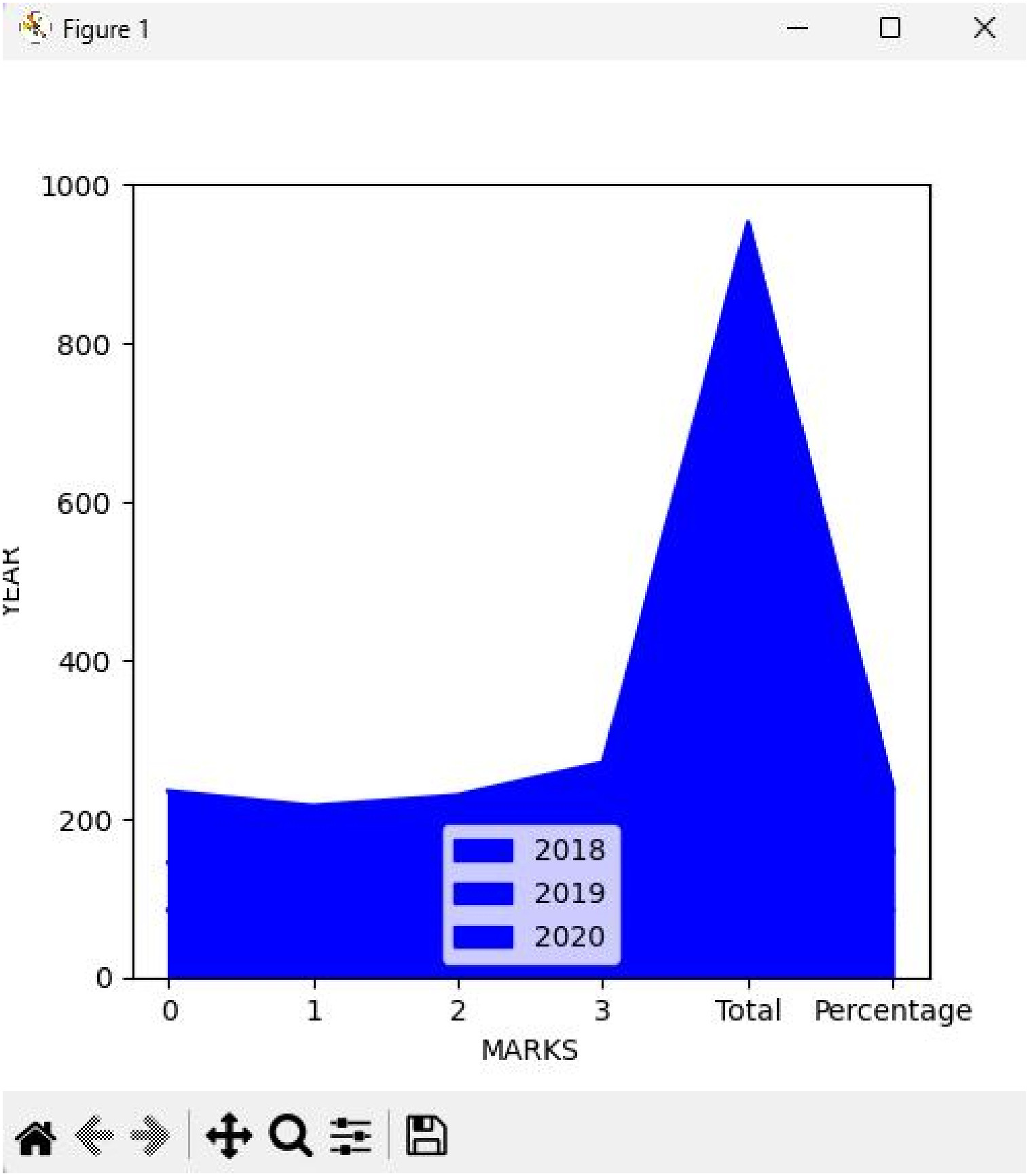
Figure 1
1000
800
600
400
200
0
YEAR
0
1
2
3
Total
Percentage
MARKS
2018
2019
2020

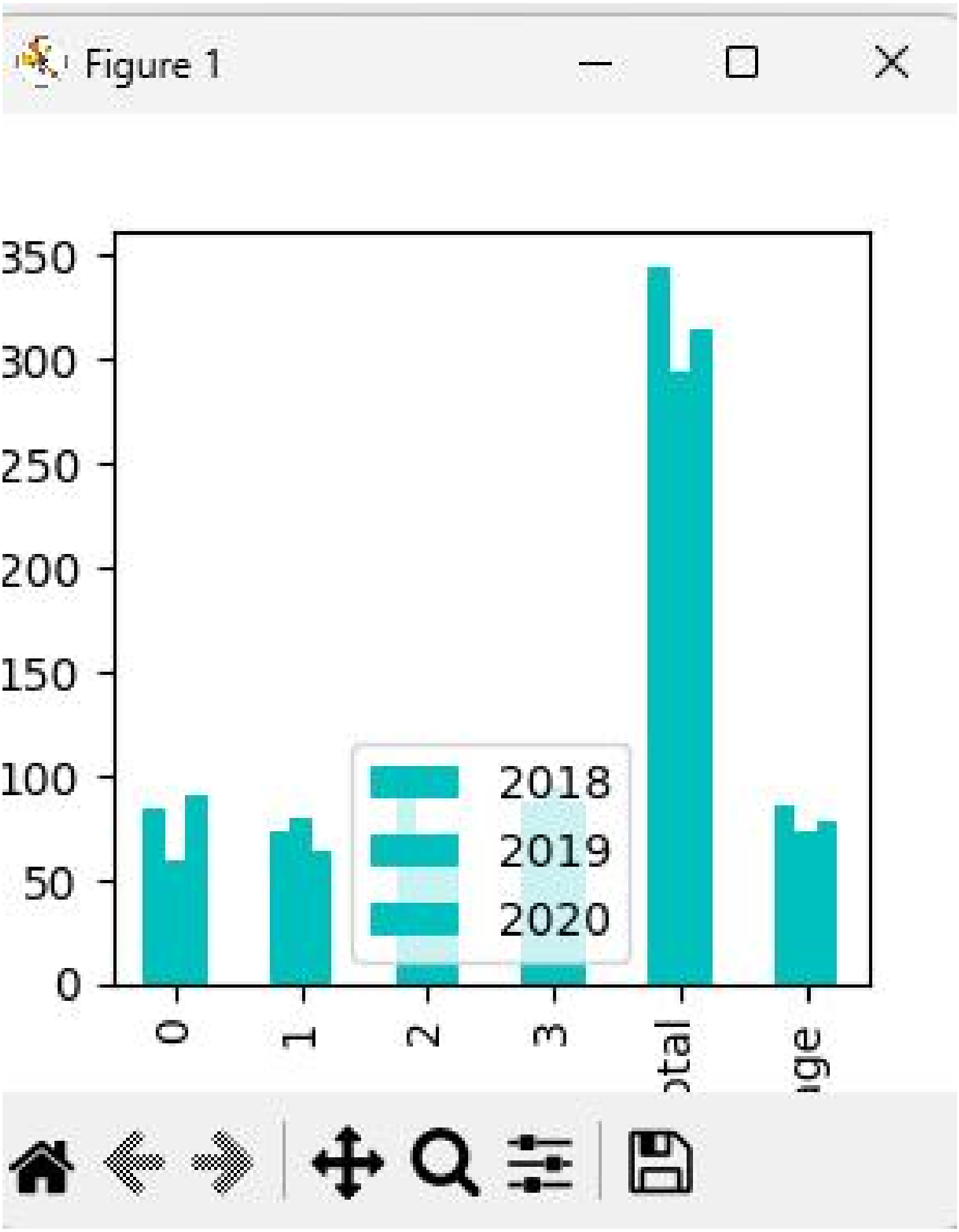
Figure 1
350
300
250
200
150
100
50
0
2018
2019
2020
0
1
2
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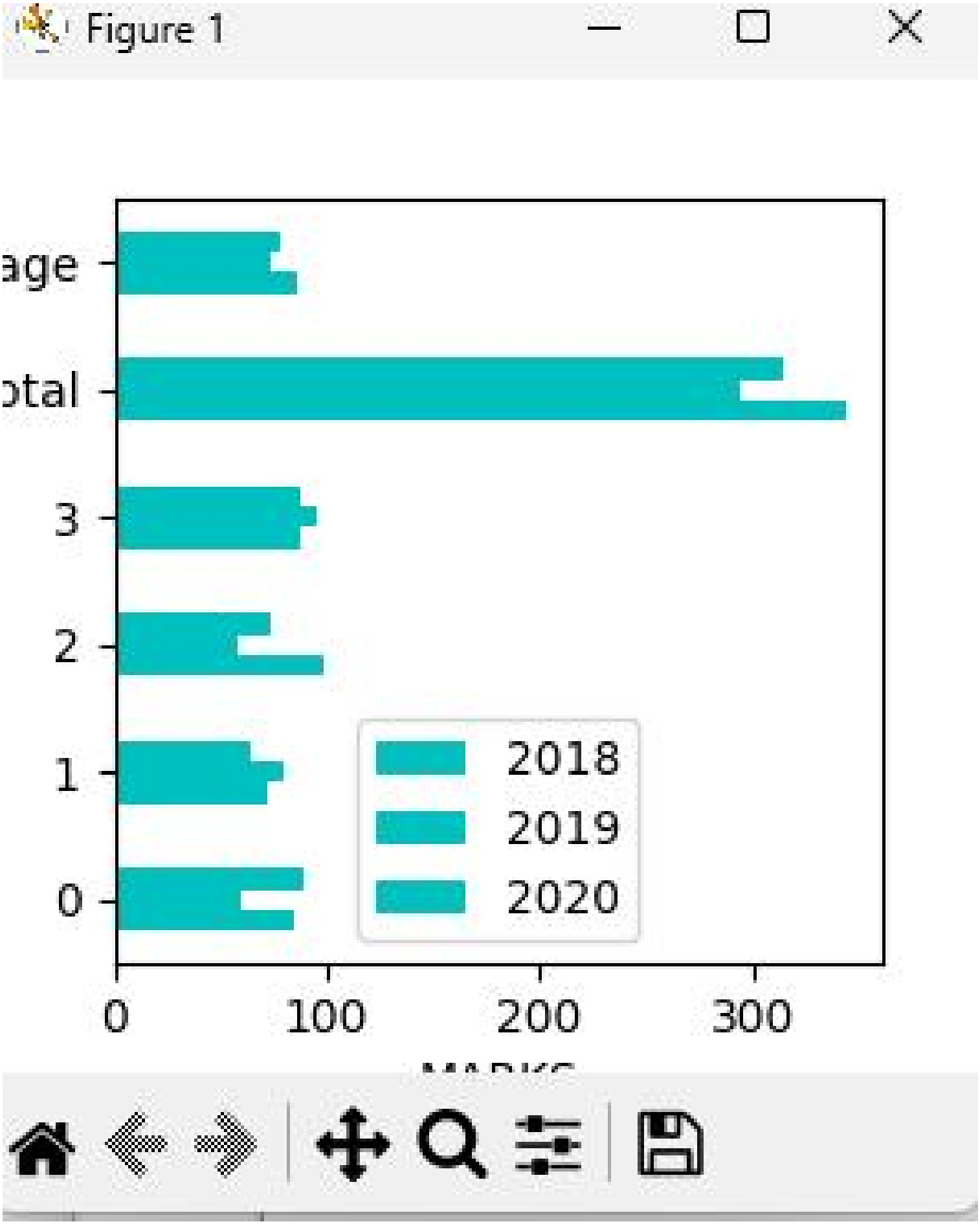
Figure 1
age
otal
3
2
1
0
2018
2019
2020
0
100
200
300

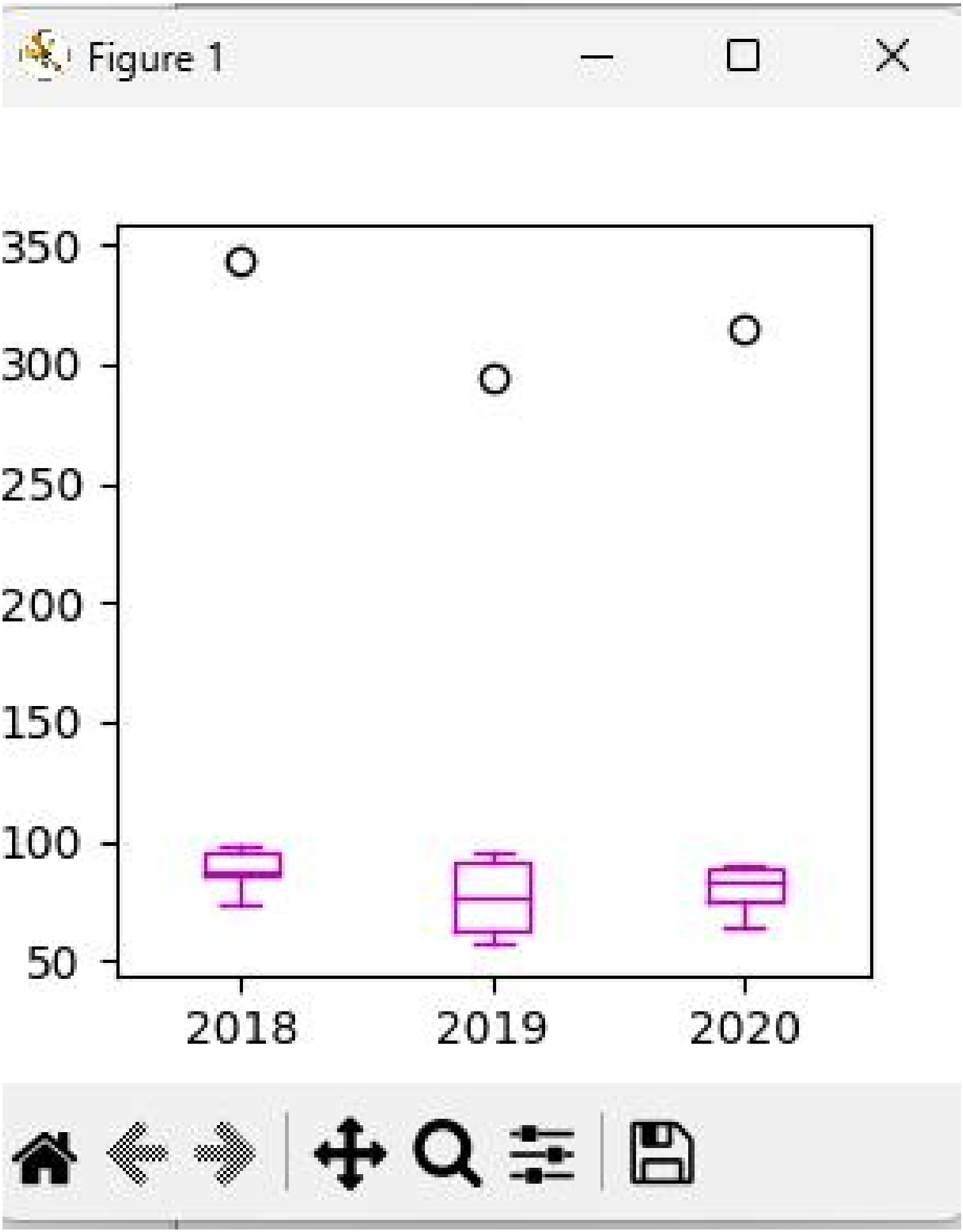
Figure 1
350
300
250
200
150
100
50
2018
2019
2020

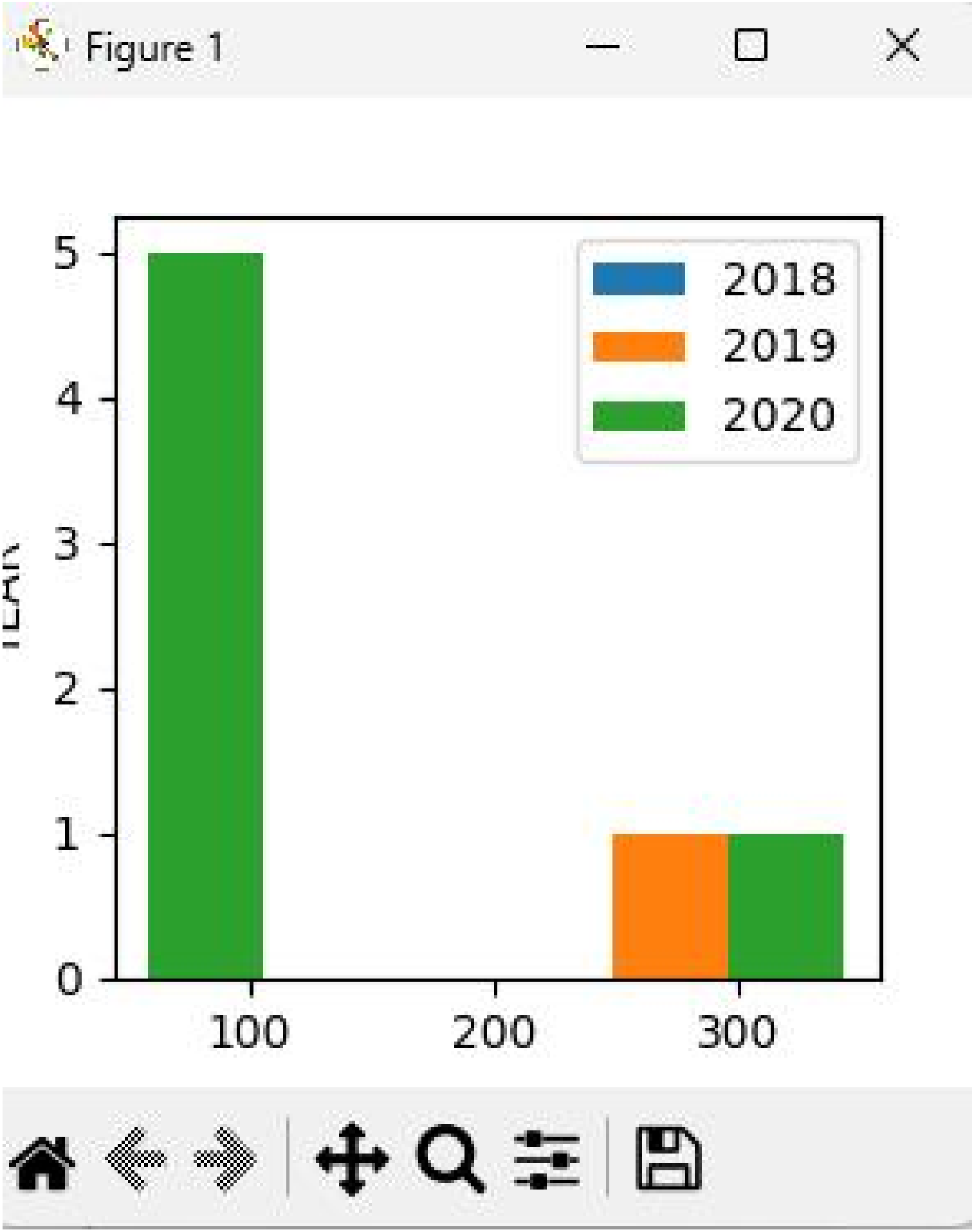
Figure 1
2018
2019
2020
5
4
3
2
1
0
100
200
300

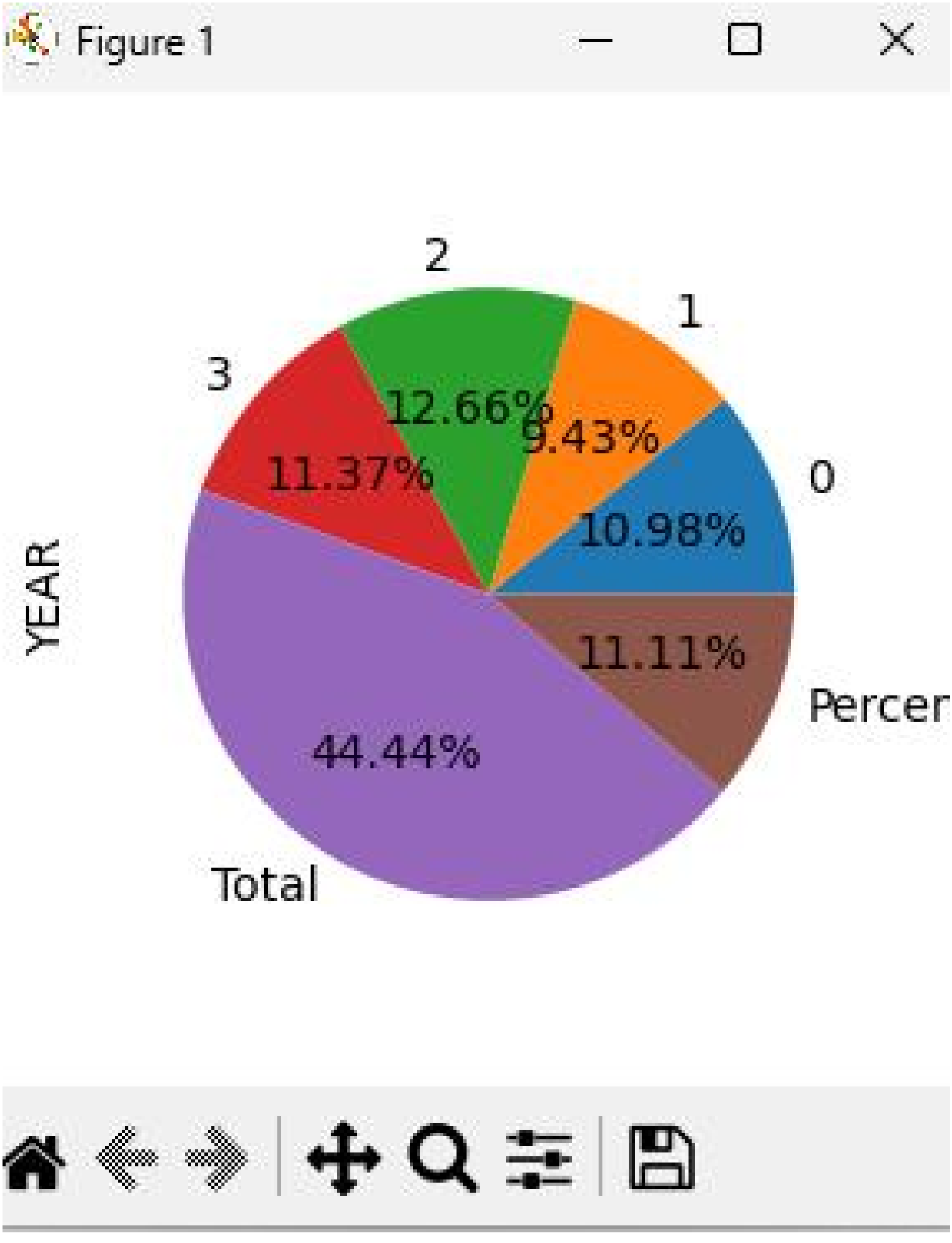
Figure 1
2
1
3
0
12.66%
9.43%
11.37%
10.98%
11.11%
44.44%
YEAR
Percer
Total