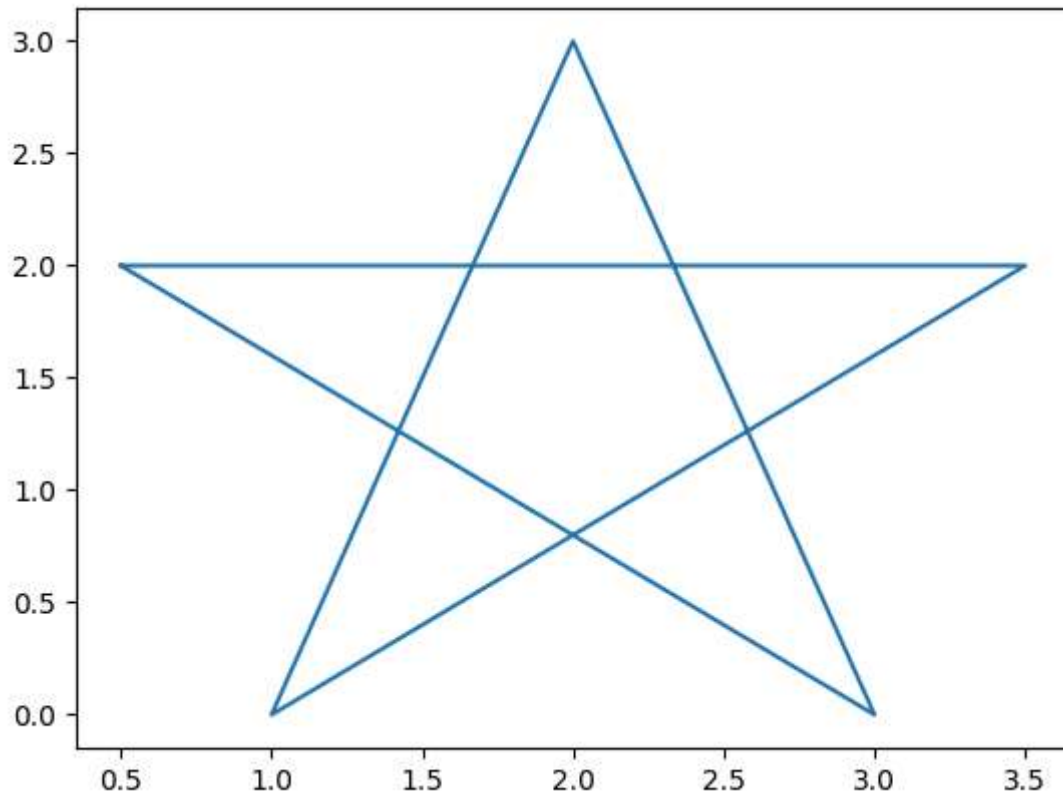


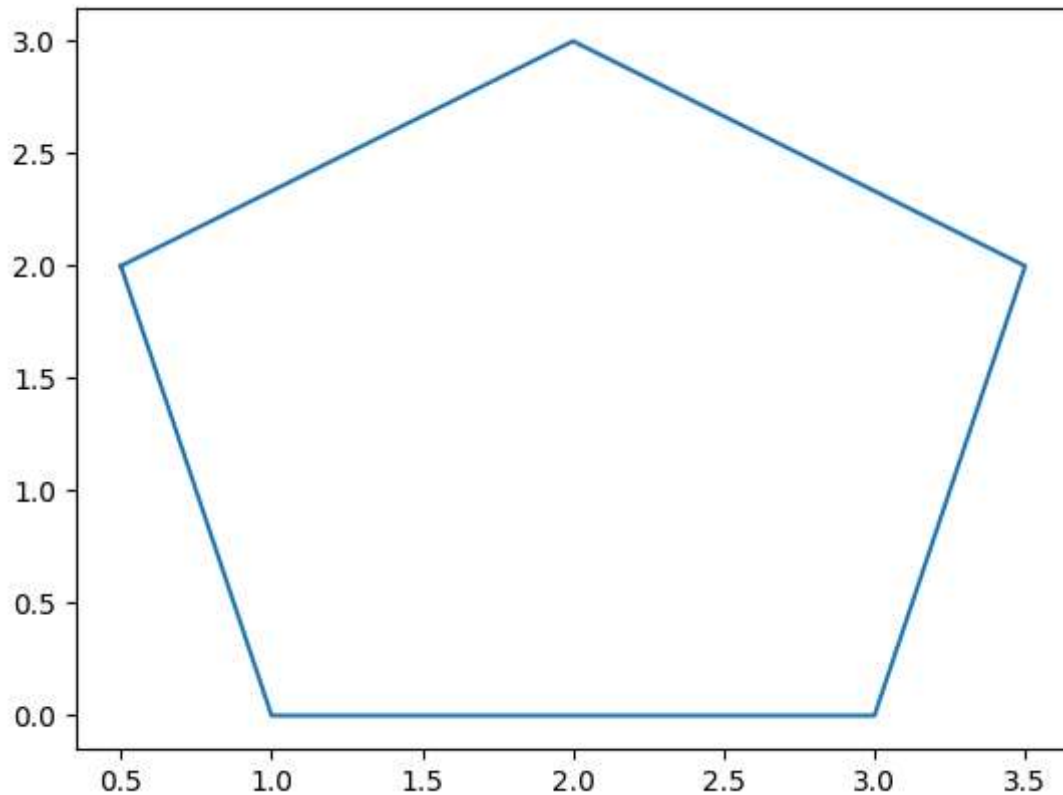
```
In [2]: import matplotlib.pyplot as plt

absisses = [0.5,3.5,1,2,3,0.5]
ordonnees = [2,2,0,3,0,2]
plt.plot(absisses,ordonnees)
plt.show()
```



```
In [3]: import matplotlib.pyplot as plt

absisses = [0.5,1,3,3.5,2,0.5]
ordonnees = [2,0,0,2,3,2]
plt.plot(absisses,ordonnees)
plt.show()
```



```
In [1]: import seaborn as sns
import matplotlib.pyplot as plt
import math
import numpy as np

x1 = np.linspace(-7, -3, 50)
x2 = np.linspace(3, 7, 50)

fx = [3 * math.sqrt(1 - n**2 / 49) for n in x1]
fx2 = [3 * math.sqrt(1 - n**2 / 49) for n in x2]

sns.lineplot(x=x1, y=fx)
sns.lineplot(x=x2, y=fx2)

#=====
x1 = np.linspace(-7, -4, 50)
x2 = np.linspace(4, 7, 50)

fx = [-3 * math.sqrt(1 - n**2 / 49) for n in x1]
fx2 = [-3 * math.sqrt(1 - n**2 / 49) for n in x2]

sns.lineplot(x=x1, y=fx)
sns.lineplot(x=x2, y=fx2)

#=====
x1 = np.linspace(0.75, 1, 50)
x2 = np.linspace(-1, -0.75, 50)

fx = [9-8*abs(n) for n in x1]
```

```

fx2 = [9-8*abs(n) for n in x2]

sns.lineplot(x=x1, y=fx)
sns.lineplot(x=x2, y=fx2)
=====
x1 = np.linspace(0.5, 0.75, 50)
x2 = np.linspace(-0.75, -0.5, 50)

fx = [0.75 + 3 * abs(n) for n in x1]
fx2 = [0.75 + 3 * abs(n) for n in x2]

sns.lineplot(x=x1, y=fx)
sns.lineplot(x=x2, y=fx2)
=====
x1 = np.linspace(0.5, -0.5, 50)

fx = [2.25 for n in x1]

sns.lineplot(x=x1, y=fx)
=====
#f6
x1 = np.linspace(-4, 4, 300)

fx = [abs(n/2) - ((3 * math.sqrt(33)-7)/112)* n**2 + math.sqrt(1-((abs(abs(n)-2)))-1

sns.lineplot(x=x1, y=fx)
=====
x1 = np.linspace(-3, -1, 300)
x2 = np.linspace(1, 3, 300)

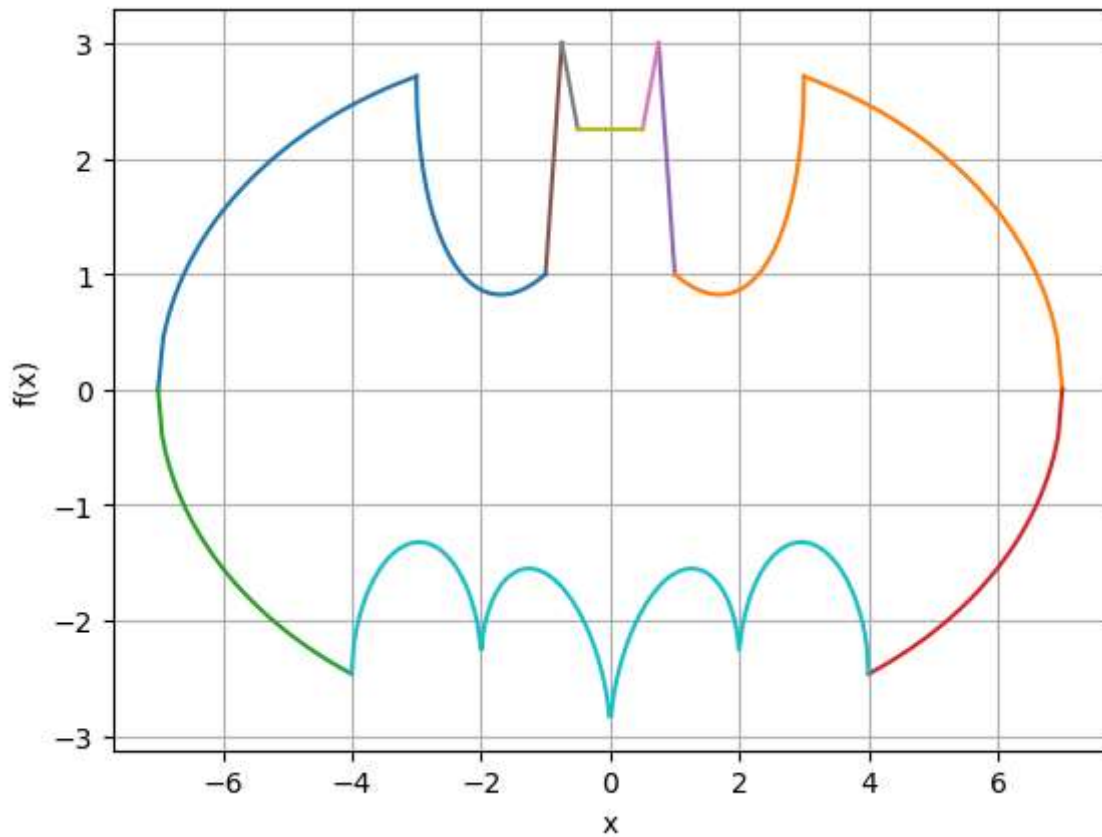
def f7(x):
    return (6 * np.sqrt(10) / 7) + (1.5 - 0.5 * np.abs(x)) - (6 * np.sqrt(10) / 14)

y1 = f7(x1)
y2 = f7(x2)

sns.lineplot(x=x1, y=y1 )
sns.lineplot(x=x2, y=y2)

plt.xlabel('x')
plt.ylabel('f(x)')
plt.grid(True)
plt.show()

```



```
In [4]: import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt

data = {
    'A': np.random.randint(1,100,20),
    'B': np.random.randint(1,100,20),
    'C': np.random.randint(1,100,20),
    'D': np.random.randint(1,100,20),
    'E': np.random.randint(1,100,20)
}

df = pd.DataFrame(data)

sns.heatmap(df.corr(), annot=True, fmt=".2f")

plt.title("Heatmap")
plt.show()
```

