In [4]:
```python
#importing libraries
from numpy import linspace
import matplotlib.pyplot as plt
from pyit2fls import zero_mf, singleton_mf, const_mf, tri_mf, ltri_mf, rtri_mf, \
    trapezoid_mf, gaussian_mf
```

In [6]:
```python
#different types of membership functions (MFs) commonly used in fuzzy logic systems
domain = linspace(0., 1., 1001)
zero = zero_mf(domain)
singleton = singleton_mf(domain, [0.5, 1.])
const = const_mf(domain, [1.])
tri = tri_mf(domain, [0., 0.5, 1., 1.])
ltri = ltri_mf(domain, [0.5, 1., 1.])
rtri = rtri_mf(domain, [0.5, 0., 1.])
trapezoid = trapezoid_mf(domain, [0., 0.25, 0.75, 1., 1.])
gaussian = gaussian_mf(domain, [0.5, 0.1, 1.])
```

In [ ]:
```python
#generating plots of different types of membership functions using the matplotlib l
#These plots visually represent the shapes and characteristics of various membershi
```

In [8]:
```python
#All ZERO  Membership Function v/s CONST Membership Function
plt.figure()
plt.plot(domain, zero, label="All zero MF")
plt.plot(domain, const, label="Const MF")
plt.grid(True)
plt.legend()
plt.xlabel("Domain")
plt.ylabel("Membership function")
plt.show()
```
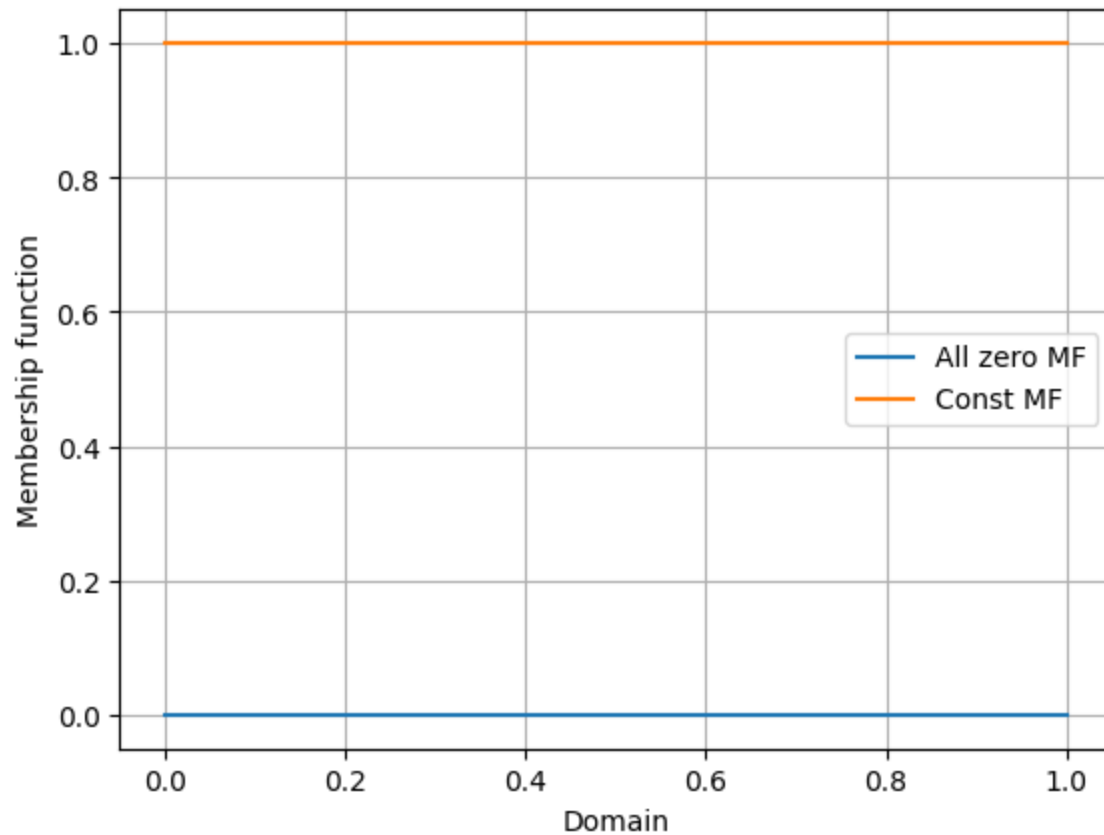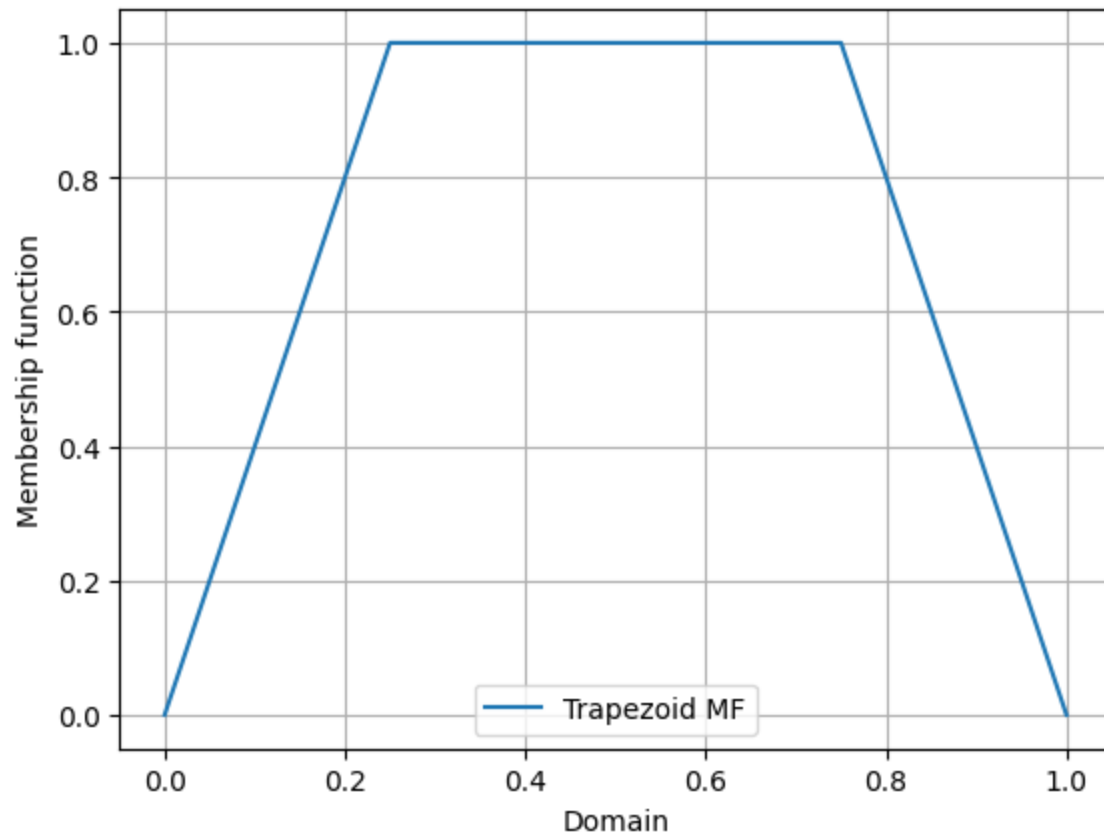
In [10]:
```python
#Singleton Membership Function
plt.figure()
plt.plot(domain, singleton, label="Singleton MF")
plt.grid(True)
plt.legend()
plt.xlabel("Domain")
plt.ylabel("Membership function")
plt.show()
```
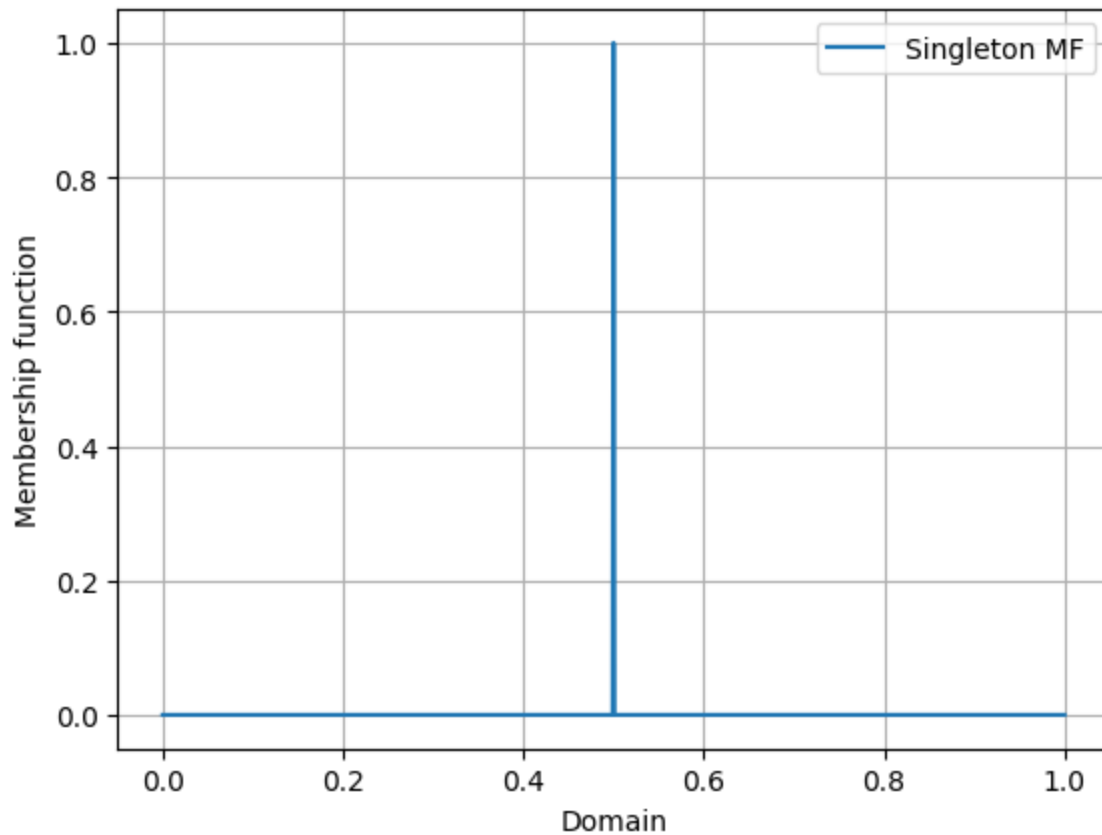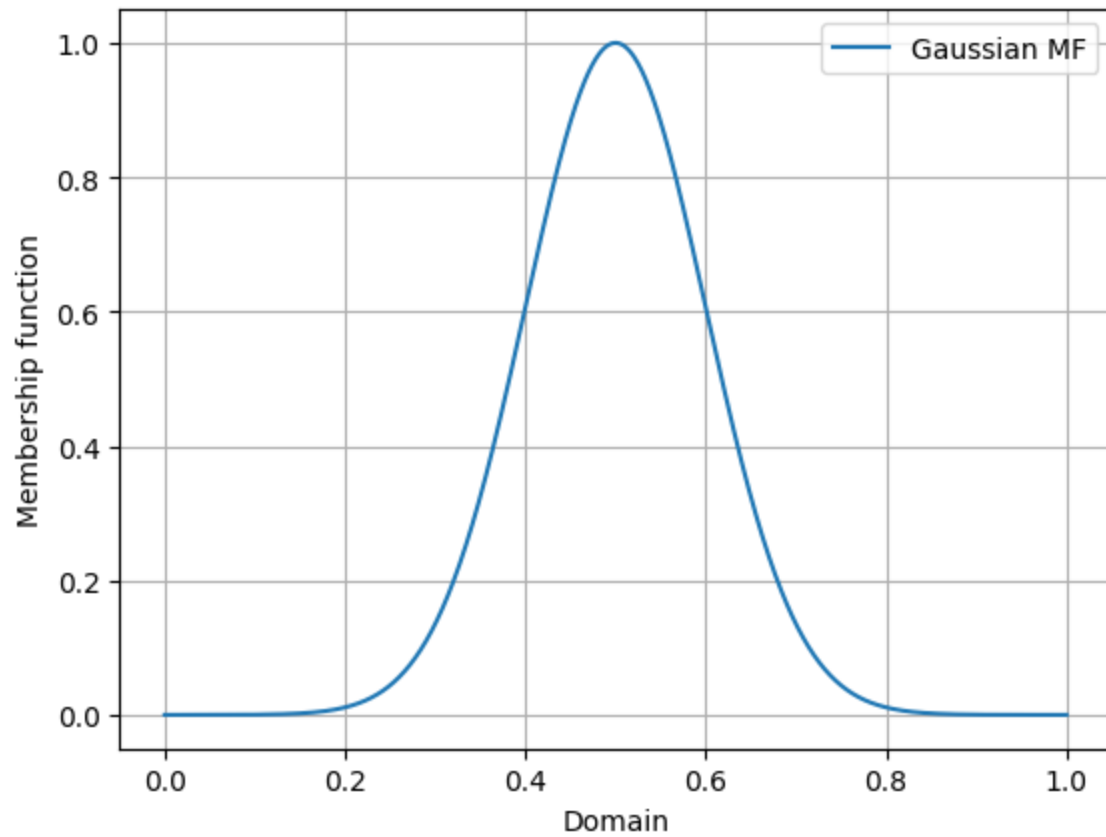
```
In [11]: #Triangular Membership Function v/s Left triangular Membership Function v/s Right t
         plt.figure()
         plt.plot(domain, tri, label="Triangular MF")
         plt.plot(domain, ltri, label="Left triangular MF")
         plt.plot(domain, rtri, label="Right triangular MF")
         plt.grid(True)
         plt.legend()
         plt.xlabel("Domain")
         plt.ylabel("Membership function")
         plt.show()
```
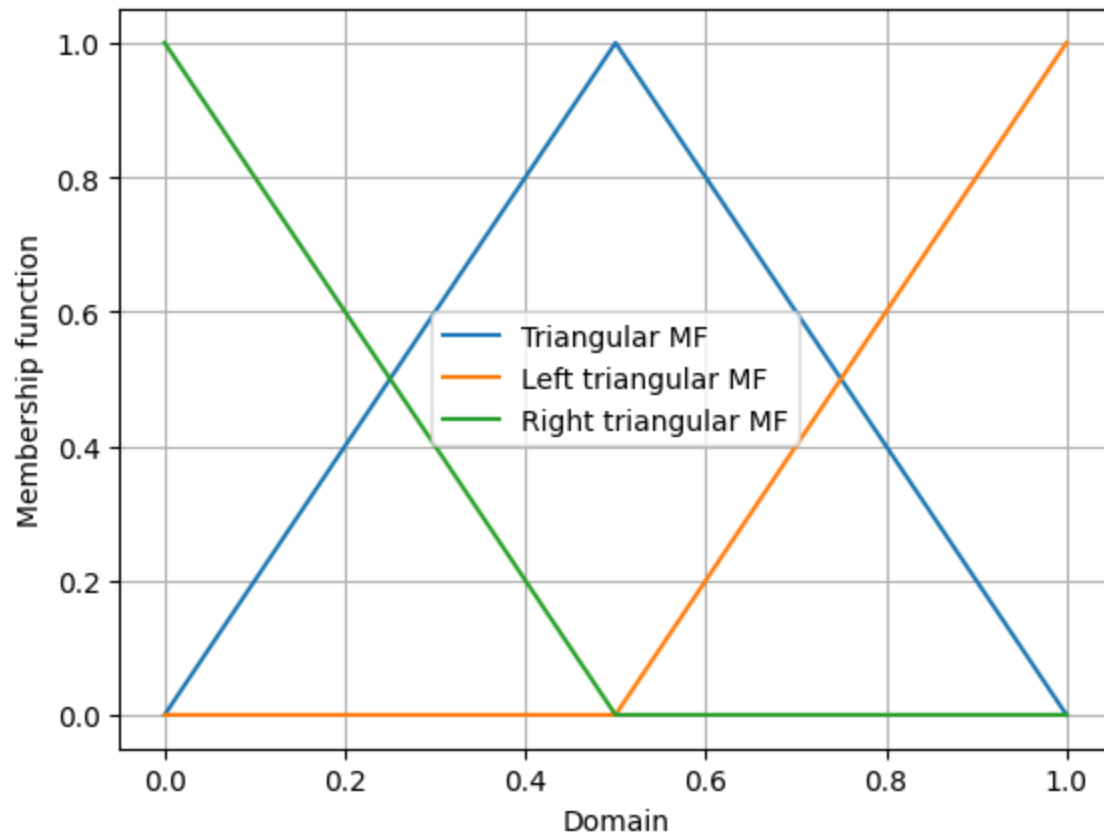
```python
In [13]:   #Trapezoid Membership Function
           plt.figure()
           plt.plot(domain, trapezoid, label="Trapezoid MF")
           plt.grid(True)
           plt.legend()
           plt.xlabel("Domain")
           plt.ylabel("Membership function")
           plt.show()
```

In [14]:
```python
#Gaussian Membership Function
plt.figure()
plt.plot(domain, gaussian, label="Gaussian MF")
plt.grid(True)
plt.legend()
plt.xlabel("Domain")
plt.ylabel("Membership function")
plt.show()
```

In [ ]: