```
w = logspace(-3, 4, 100)
```

```
w = 1×100
10^4 ×
    0.0000    0.0000    0.0000    0.0000    0.0000    0.0000    0.0000    0.0000 ···
```

```
mag = sqrt((10 + 5 * w.^2).^2 + (49 * w).^2) ./ (100 + w.^2)
```

```
mag = 1×100
    0.1000    0.1000    0.1000    0.1000    0.1000    0.1000    0.1000    0.1000 ···
```

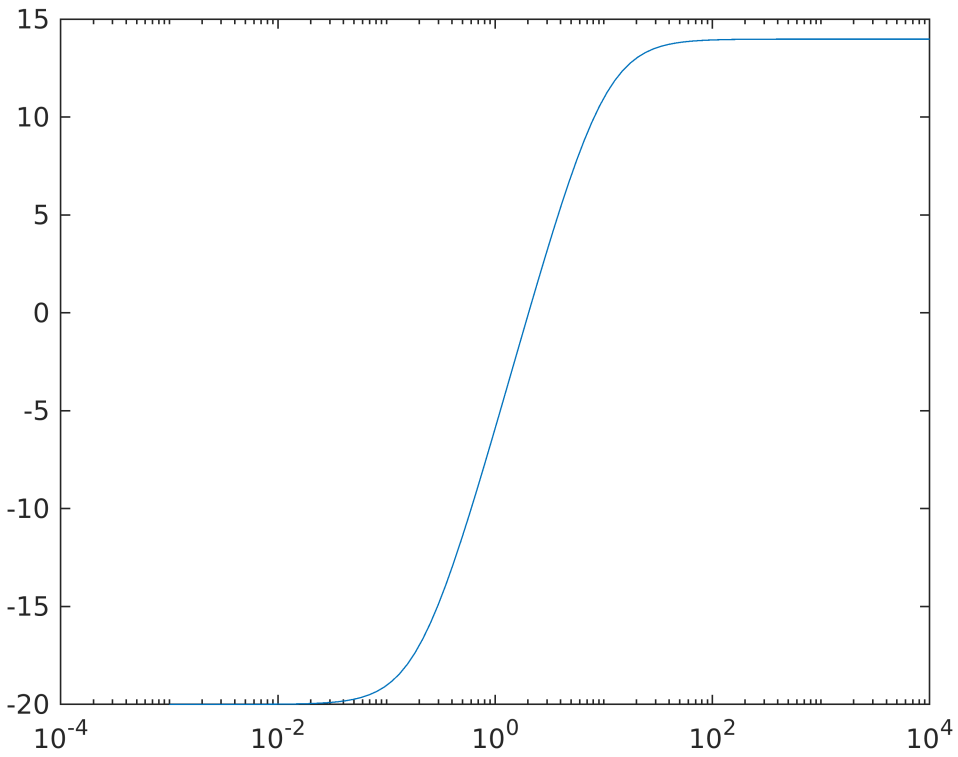
```
db = 20 * log10(mag)
```

```
db = 1×100
  -19.9999  -19.9998  -19.9998  -19.9997  -19.9996  -19.9994  -19.9992  -19.9989 ···
```

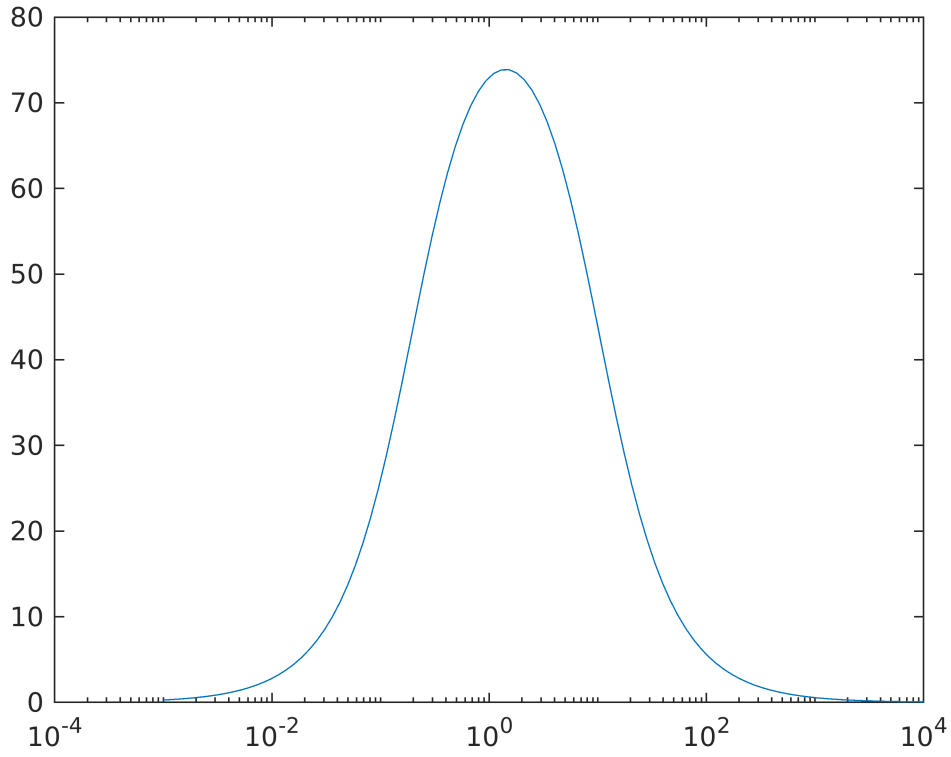
```
phase = atand(49 * w ./ (10 + 5 * w.^2))
```

```
phase = 1×100
    0.2807    0.3304    0.3888    0.4575    0.5384    0.6336    0.7457    0.8775 ···
```

```
semilogx(w, db)
```




```
semilogx(w, phase)
```



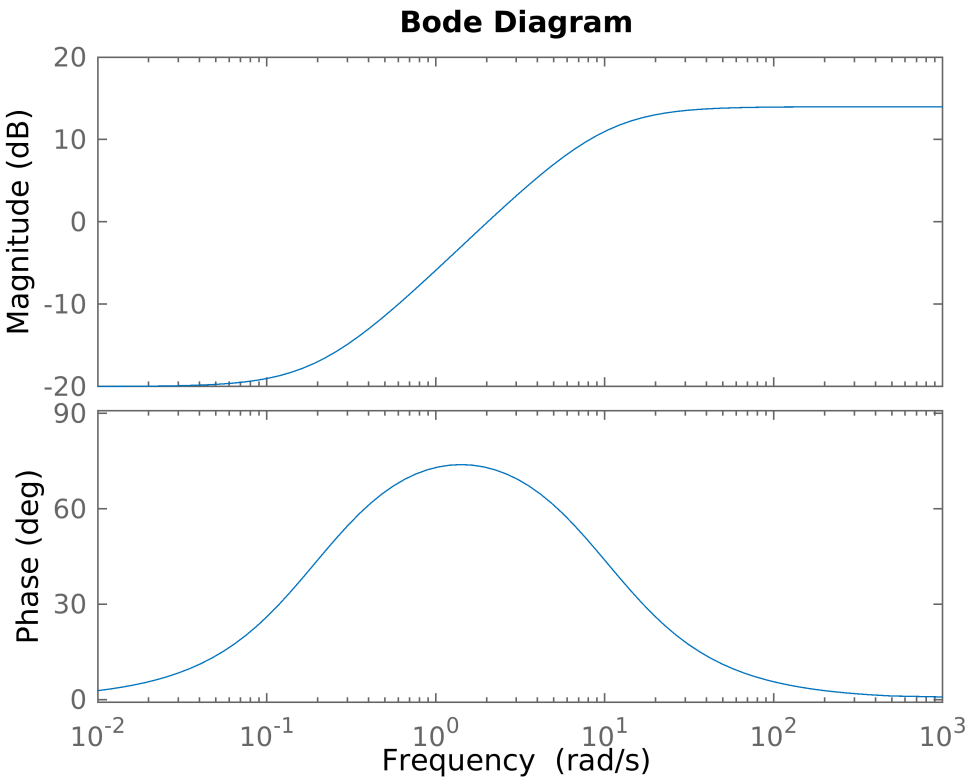

```
H = tf([5 1], [1 10])
```

```
H =

  5 s + 1
  -------
  s + 10

Continuous-time transfer function.
```

```
bode(H)
```


Bode Diagram
Magnitude (dB)
20
10
0
-10
-20
Phase (deg)
90
60
30
0
10^-2
10^-1
10^0
10^1
10^2
10^3
Frequency (rad/s)