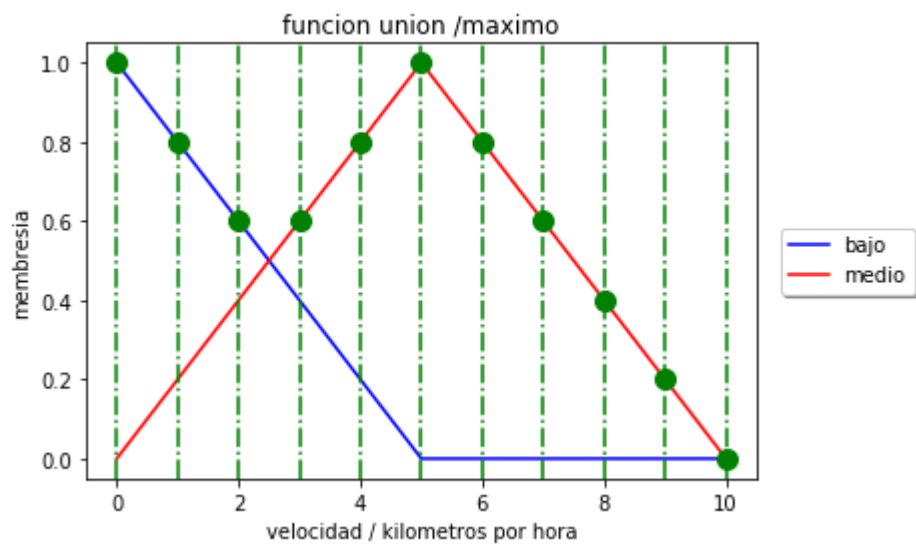


In [3]:

```

1  #union
2
3  import numpy as np
4  import skfuzzy as sk
5  import matplotlib.pyplot as plt
6
7  #definicion de arreglo para calidad
8  x = np.arange(0,11,1)
9
10 #definiendo funciones triangulares
11 bajo = sk.trimf(x,[0,0,5])
12 medio = sk.trimf(x,[0,5,10])
13
14 #graficacion
15 plt.figure()
16 plt.plot(x,bajo,'b',linewidth=1.5,label='bajo')
17 plt.plot(x,medio,'r',linewidth=1.5,label='medio')
18
19 #ajuste grafico
20
21 plt.title('funcion union /maximo')
22 plt.ylabel('membresia')
23 plt.xlabel('velocidad / kilometros por hora')
24 plt.legend(loc='center right',bbox_to_anchor=(1.25,0.5),ncol=1,fancybox=True)
25
26 plt.axvline(x=0,ymin=0,ymax=10,color="g",linestyle='-.')
27 plt.axvline(x=1,ymin=0,ymax=10,color="g",linestyle='-.')
28 plt.axvline(x=2,ymin=0,ymax=10,color="g",linestyle='-.')
29 plt.axvline(x=3,ymin=0,ymax=10,color="g",linestyle='-.')
30 plt.axvline(x=4,ymin=0,ymax=10,color="g",linestyle='-.')
31 plt.axvline(x=5,ymin=0,ymax=10,color="g",linestyle='-.')
32 plt.axvline(x=6,ymin=0,ymax=10,color="g",linestyle='-.')
33 plt.axvline(x=7,ymin=0,ymax=10,color="g",linestyle='-.')
34 plt.axvline(x=8,ymin=0,ymax=10,color="g",linestyle='-.')
35 plt.axvline(x=9,ymin=0,ymax=10,color="g",linestyle='-.')
36 plt.axvline(x=10,ymin=0,ymax=10,color="g",linestyle='-.')
37
38 plt.plot(0,1,marker='o',markersize=10,color="g")
39 plt.plot(1,0.8,marker='o',markersize=10,color="g")
40 plt.plot(2,0.6,marker='o',markersize=10,color="g")
41 plt.plot(3,0.6,marker='o',markersize=10,color="g")
42 plt.plot(4,0.8,marker='o',markersize=10,color="g")
43 plt.plot(5,1,marker='o',markersize=10,color="g")
44
45 plt.plot(6,0.8,marker='o',markersize=10,color="g")
46 plt.plot(7,0.6,marker='o',markersize=10,color="g")
47 plt.plot(8,0.4,marker='o',markersize=10,color="g")
48 plt.plot(9,0.2,marker='o',markersize=10,color="g")
49 plt.plot(10,0,marker='o',markersize=10,color="g")
50
51 plt.show()
52
53 #encontrando el maximo(fuzzy OR)
54 sk.fuzzy_or(x,bajo,x,medio)
55

```



```
Out[3]: (array([ 0,  1,  2,  3,  4,  5,  6,  7,  8,  9, 10]),  
         array([1. , 0.8, 0.6, 0.6, 0.8, 1. , 0.8, 0.6, 0.4, 0.2, 0. ]))
```