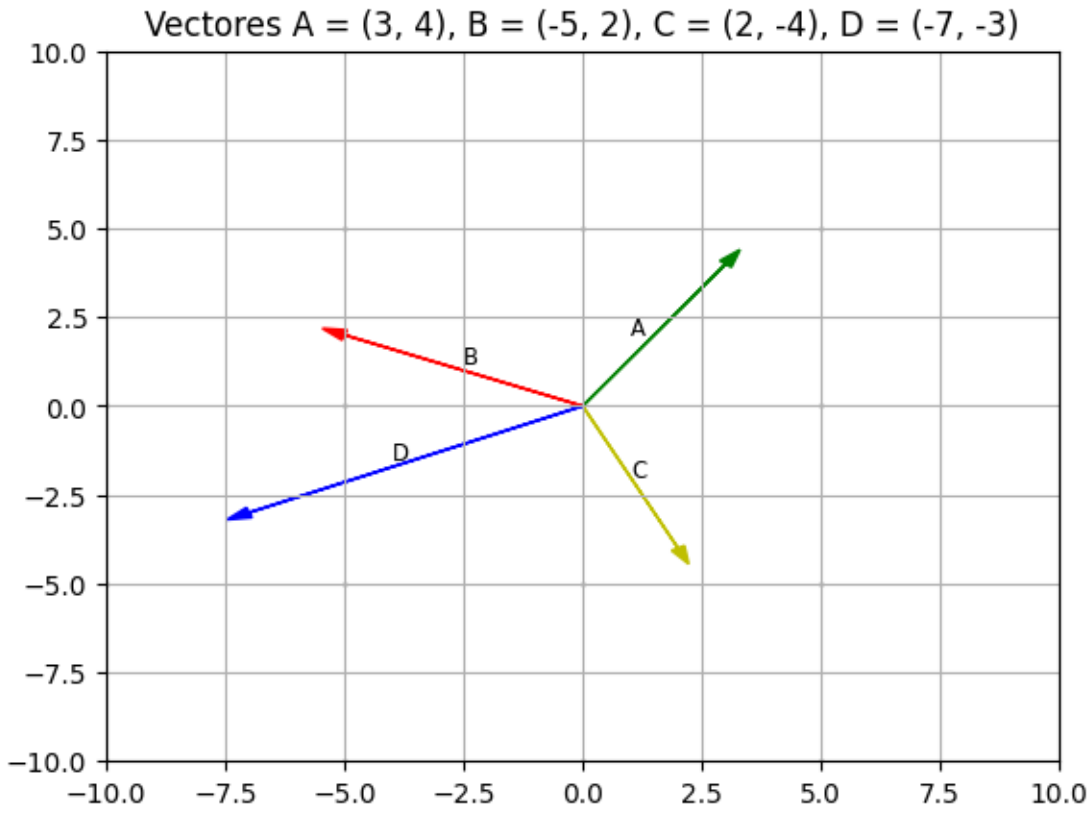
Vectores2

September 17, 2024

[32]:
```
import numpy as np
import matplotlib.pyplot as plt

x1 = -10
x2 = 10
y1 = -10
y2 = 10
# Definir ejes
plt.axis([x1,x2,y1,y2])
# Agregamos los grid
plt.axis('on')
# Agregamos los grid
plt.grid(True)
# Agregamos un titulo en la grafica
plt.title('Vectores A = (3, 4), B = (-5, 2), C = (2, -4), D = (-7, -3)')

dx = 5
dy = 5
# Graficar puntos a mitad de las lineas (s = 1.5)
for x in np.arange(x1, x2, dx):
    for y in np.arange(y1, y2, dy):
        #plt.scatter(x_array, y_array, s_tamaño, color, etc)
        plt.scatter(x, y, s = 1.5, color = 'lightgray')

# Graficando el vector
        # x,  y, incremento, abscisa, longitud, ancho, color
plt.arrow(0, 0, 3, 4, head_length = 0.5, head_width = 0.3, color = "g") #␣
 ↪Vector verde
plt.text(1, 2, 'A', size = 'small')
plt.arrow(0, 0, -5, 2, head_length = 0.5, head_width = 0.3, color = "r") #␣
 ↪Vector rojo
plt.text(-2.5, 1.2, 'B', size = 'small')
plt.arrow(0, 0, 2, -4, head_length = 0.5, head_width = 0.3, color = "y") #␣
 ↪Vector amarillo
plt.text(1, -2, 'C', size = 'small')
plt.arrow(0, 0, -7, -3, head_length = 0.5, head_width = 0.3, color = "b") #␣
 ↪Vector azul
```

```
plt.text(-4, -1.5, 'D', size = 'small')
```

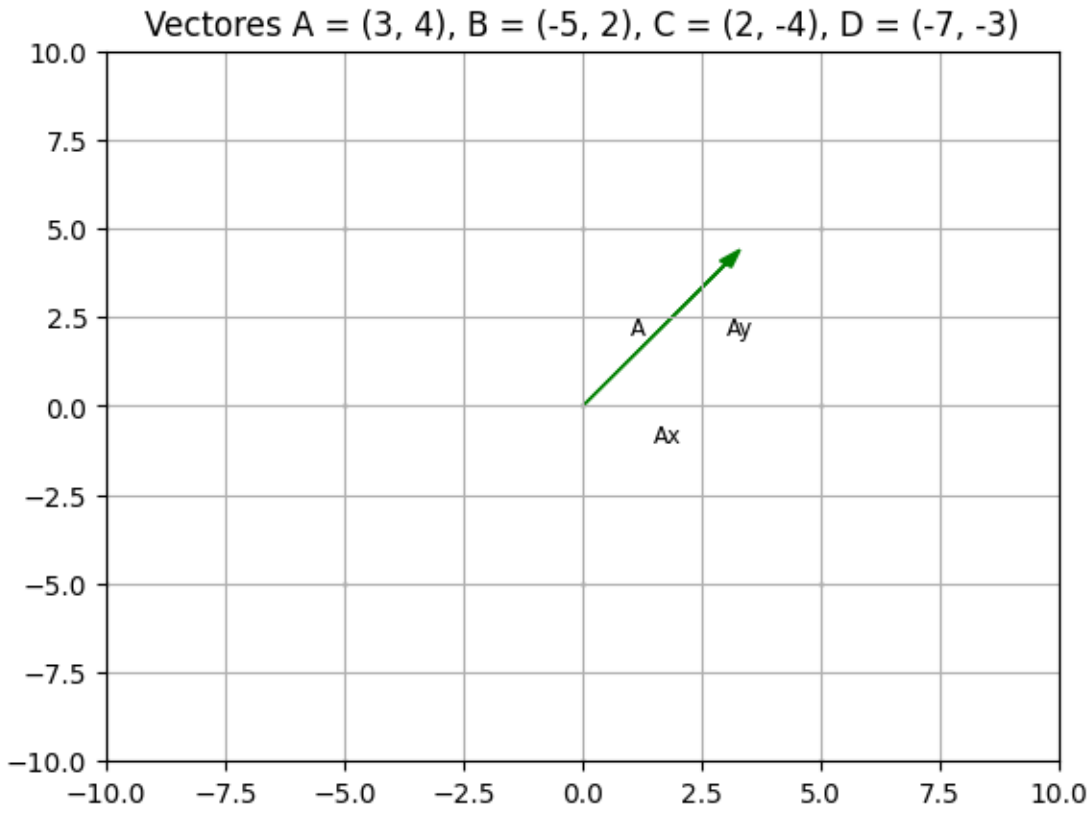
[32]: Text(-4, -1.5, 'D')



[17]:
```
import numpy as np
import matplotlib.pyplot as plt

x1 = -10
x2 = 10
y1 = -10
y2 = 10
# Definir ejes
plt.axis([x1,x2,y1,y2])
# Agregamos los grid
plt.axis('on')
# Agregamos los grid
plt.grid(True)
# Agregamos un titulo en la grafica
plt.title('Vectores A = (3, 4), B = (-5, 2), C = (2, -4), D = (-7, -3)')

dx = 5
```

```
dy = 5
# Graficar puntos a mitad de las lineas (s = 1.5)
for x in np.arange(x1, x2, dx):
    for y in np.arange(y1, y2, dy):
        #plt.scatter(x_array, y_array, s_tamaño, color, etc)
        plt.scatter(x, y, s = 1.5, color = 'lightgray')

# Graficando el vector
        # x,  y, incremento, abscisa, longitud, ancho, color
plt.arrow(0, 0, 3, 4, head_length = 0.5, head_width = 0.3, color = "g") #␣
 ↪Vector verde
plt.text(1, 2, 'A', size = 'small')
plt.text(1.5, -1, 'Ax', size = 'small')
plt.text(3, 2, 'Ay', size = 'small')
```

[17]: `Text(3, 2, 'Ay')`



[18]:
```
import numpy as np
import matplotlib.pyplot as plt

x1 = -10
```

```
x2 = 10
y1 = -10
y2 = 10
# Definir ejes
plt.axis([x1,x2,y1,y2])
# Agregamos los grid
plt.axis('on')
# Agregamos los grid
plt.grid(True)
# Agregamos un titulo en la grafica
plt.title('Vectores A = (3, 4), B = (-5, 2), C = (2, -4), D = (-7, -3)')

dx = 5
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# Graficar puntos a mitad de las lineas (s = 1.5)
for x in np.arange(x1, x2, dx):
    for y in np.arange(y1, y2, dy):
        #plt.scatter(x_array, y_array, s_tamaño, color, etc)
        plt.scatter(x, y, s = 1.5, color = 'lightgray')

# Graficando el vector
        # x,  y, incremento, abscisa, longitud, ancho, color

plt.arrow(0, 0, -5, 2, head_length = 0.5, head_width = 0.3, color = "r") #␣
 ↪Vector rojo
plt.text(-2.5, 1.2, 'B', size = 'small')
plt.text(-3, -1, 'Bx', size = 'small')
plt.text(-5.5, 0.7, 'By', size = 'small')
```
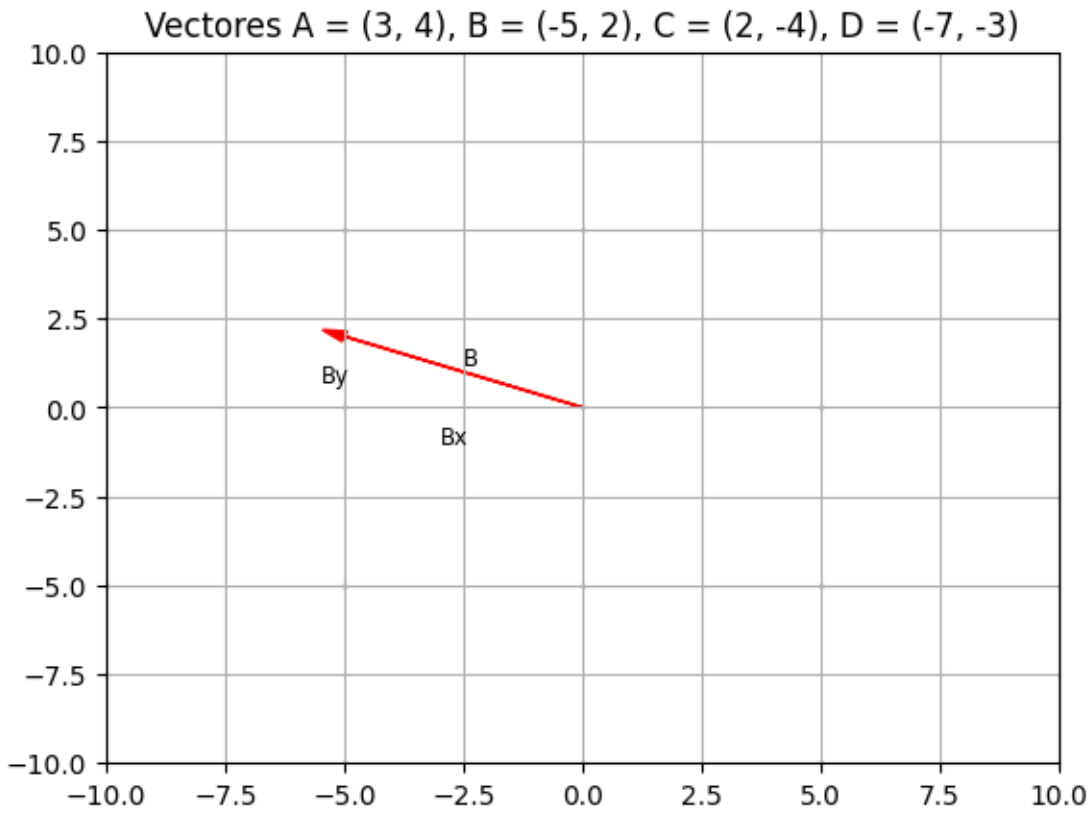

[18]: Text(-5.5, 0.7, 'By')



[22]:
```python
import numpy as np
import matplotlib.pyplot as plt

x1 = -10
x2 = 10
y1 = -10
y2 = 10
# Definir ejes
plt.axis([x1,x2,y1,y2])
# Agregamos los grid
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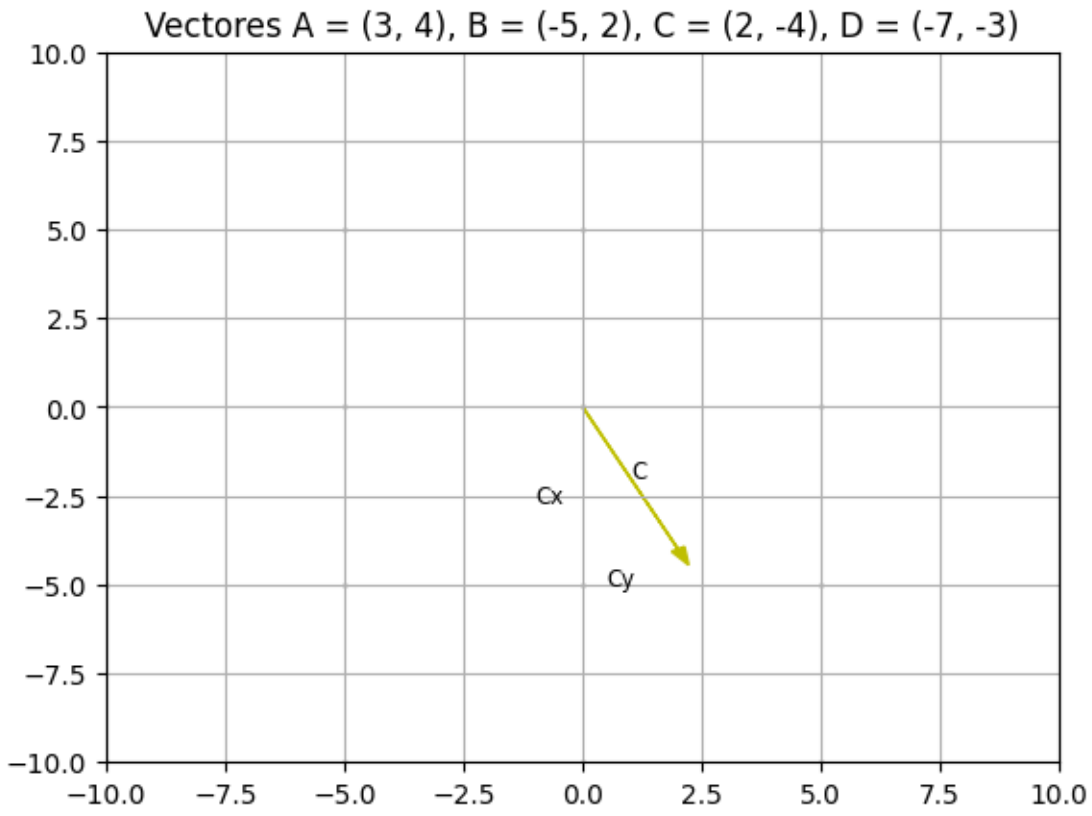
dx = 5
dy = 5
# Graficar puntos a mitad de las lineas (s = 1.5)
for x in np.arange(x1, x2, dx):
    for y in np.arange(y1, y2, dy):
```

```
        #plt.scatter(x_array, y_array, s_tamaño, color, etc)
        plt.scatter(x, y, s = 1.5, color = 'lightgray')

# Graficando el vector
        # x,  y, incremento, abscisa, longitud, ancho, color

plt.arrow(0, 0, 2, -4, head_length = 0.5, head_width = 0.3, color = "y") #␣
 ↪Vector amarillo
plt.text(1, -2, 'C', size = 'small')
plt.text(-1, -2.7, 'Cx', size = 'small')
plt.text(0.5, -5, 'Cy', size = 'small')
```

[22]:
```
Text(0.5, -5, 'Cy')
```



[32]:
```
import numpy as np
import matplotlib.pyplot as plt

x1 = -10
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y1 = -10
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```
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plt.axis([x1,x2,y1,y2])
# Agregamos los grid
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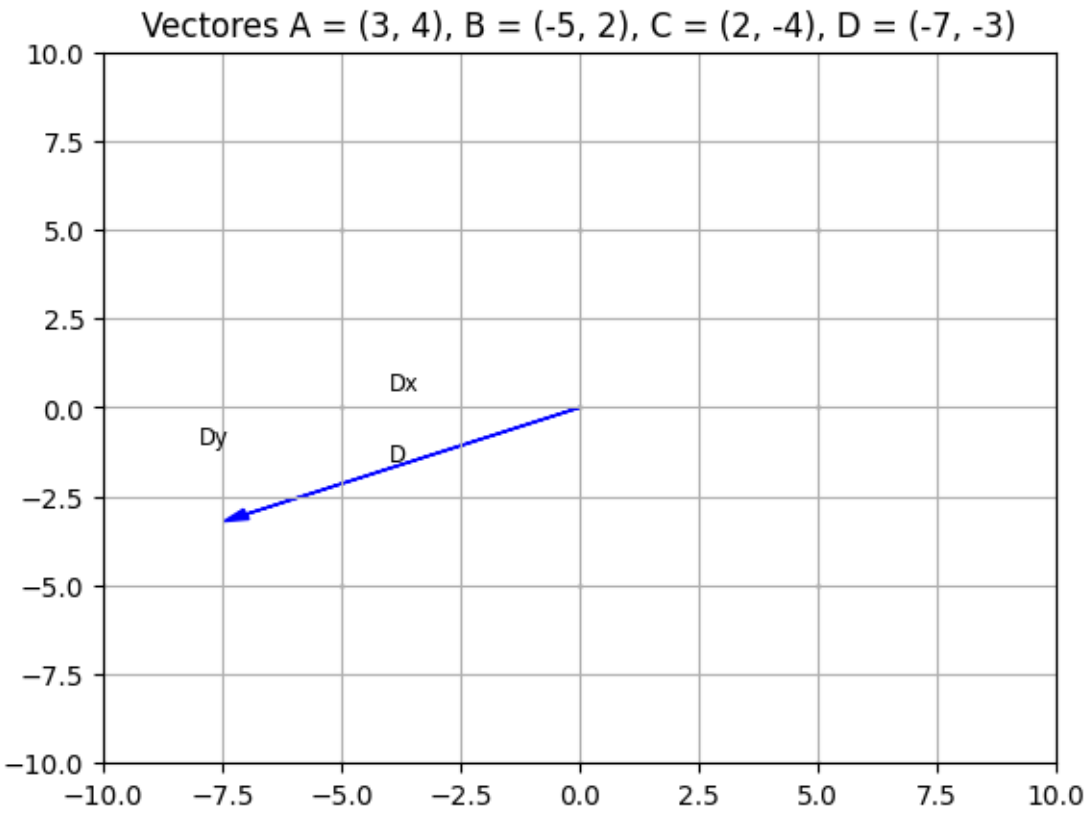
        plt.scatter(x, y, s = 1.5, color = 'lightgray')

# Graficando el vector
        # x,  y, incremento, abscisa, longitud, ancho, color
plt.arrow(0, 0, -7, -3, head_length = 0.5, head_width = 0.3, color = "b") #␣
 ↪Vector azul
plt.text(-4, -1.5, 'D', size = 'small')
plt.text(-4, 0.5, 'Dx', size = 'small')
plt.text(-8, -1, 'Dy', size = 'small')
```

[32]: Text(-8, -1, 'Dy')


Vectores A = (3, 4), B = (-5, 2), C = (2, -4), D = (-7, -3)
10.0
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
−10.0
−10.0
−7.5
−5.0
−2.5
0.0
2.5
5.0
7.5
10.0
Dx
Dy
D