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```
import numpy as np

A = np.matrix([[2, 3],[1, -2]])
B = np.matrix([[8],[-10]])

x = (A**-1)*b
print("this is A\n",A)
print("this is B\n",B)
print("this Inverse\n",x)
```

```
this is A
 [[ 2  3]
 [ 1 -2]]
this is B
 [[  8]
 [-10]]
this Inverse
 [[-2.]
 [ 4.]]
```

```
if np.linalg.det(A) == 0:
    x = None
    print("No se puede resolver")
else:
    x = (A**-1)*b
    print("this Inverse\n",x)
```

```
this Inverse
 [[-2.]
 [ 4.]]
```

Actividad.

1. Empleando **Jupyter Notebook**, resuelva los siguientes ejercicios,
2. Ingrese a su git hub,
3. Cree un **repositorio con nombre** 2doPar24B,
4. Suba su código fuente y el PDF correspondiente, donde se **muestre la ejecución,**
5. Recuerde **agregar su nombre, periodo y UA** a su código,

Ejercicios:

*Determine la *solución* y el *determinante* para:

1. A = (9)
2. B $$B = \begin{pmatrix} 4 & -1 \\ -2 & 0 \end{pmatrix}$$
3. C $$C = \begin{pmatrix} 5 & 0 & 2 \\ 3 & 1 & 1 \\ 0 & 1 & 2 \end{pmatrix}$$
4. Empleando $$\begin{aligned} 3x + 2y - z &= 1 \\ 2x - 2y + 4z &= -2 \\ -x + \frac{1}{2}y - z &= 0 \end{aligned}$$
   - Identifique *la forma matricial* empleando **Ax=b**
   - Calcule el valor de **x**
   - Calcule su determinante

1)

```
A = np.matrix([[9]])

print("this is A\n",A)
det = np.linalg.det(A)
print("this is the determinante\n",det)
```

```
this is A
 [[9]]
this is the determinante
 9.000000000000002
```

2)

```
A = np.matrix([[4, -1],[-2, 0]])

print("this is A\n",A)
det = np.linalg.det(A)
print("this is the determinante\n",det)
```

```
this is A
 [[ 4 -1]
 [-2  0]]
this is the determinante
 -2.0
```

3)

```
# Definir la matriz A y el vector columna B
A = np.matrix([[5, 0, 0], [3, 1, 1],[0, 1, 2]])

print("this is A\n",A)
det = np.linalg.det(A)
print("this is the determinante\n",det)
```

```
this is A
 [[5 0 0]
 [3 1 1]
 [0 1 2]]
this is the determinante
 4.999999999999999
```

4)

```
# Definir la matriz A y el vector columna B
A = np.matrix([[3, 2,-1], [2, -2, 4],[-1, 1/2, -1]])
B = np.matrix([[1,-2,0]])


print("this is A\n",A)
print("this is B\n",B)

det = np.linalg.det(A)
print("this is the determinante\n",det)
```

```
this is A
 [[ 3.   2.  -1. ]
 [ 2.  -2.   4. ]
 [-1.   0.5 -1. ]]
this is B
 [[ 1 -2  0]]
this is the determinante
 -3.0000000000000036
```