

Eliminación de Gauss

```
A = [1 2 3 ; 2 3 1 ; 3 1 2]
```

```
A = 3×3
     1     2     3
     2     3     1
     3     1     2
```

```
b = [2 ; 1 ; 3]
```

```
b = 3×1
     2
     1
     3
```

```
gaussElimination(A, b)
```

```
ans = 3×1
     0.6667
    -0.3333
     0.6667
```

```
A \ b
```

```
ans = 3×1
     0.6667
    -0.3333
     0.6667
```

Función

```
function x = gaussElimination(A, b)
    [n, m] = size(A);

    if n ~= m
        error('La matriz debe ser cuadrada.')
    end

    % for j = 1:m-1
    %     if A(j, j) == 0, error('Pivote es 0. '), end
    %     for i = j+1:n
    %         mult = A(i, j) / A(j, j);
    %         A(i, j:m) = A(i, j:m) - mult * A(j, j:m);
    %         b(i) = b(i) - mult * b(j);
    %     end
    % end

    for j = 1:m-1
        [~, r] = max(A(j:n, j));
        r = r + j - 1;
        if r ~= j
            A([j, r], :) = A([r, j], :);
            b([j, r]) = b([r, j]);
        end
        if A(r, j) == 0, error('Pivote es cero. '), end
        for i = j+1:n
```

```

        mult = A(i, j) / A(j, j);
        A(i, j:m) = A(i, j:m) - mult * A(j, j:m);
        b(i) = b(i) - mult * b(j);
    end
end

x = zeros(size(b));

for i = n:-1:1
    x(i) = b(i) / A(i, i);
    b(1:i-1) = b(1:i-1) - A(1:i-1, i) * x(i);
end
end

```