Gauss Jordan Method

**import numpy as np**

**n=int(input("Enter number of unknowns ? " ))**

**col=[]**

**for i in range(0,n):**

**row = []**

**for j in range(0,n+1):**

**print("Enter A" , i , j )**

**temp= float(input())**

**row.append(temp)**

**col.append(row)**

**A=np.matrix(col)**

**print(A)**

**for i in range(0,n):**

**for j in range(0,n):**

**A[i,:]=A[i,:]/A[i,i]**

**if i!=j:**

**factor=A[j,i]/A[i,i]**

**for k in range(0,n+1):**

**A[j,k]=A[j,k]-factor\*A[i,k]**

**print(A)**

**print(A[:,n])**

**OUTPUT:**

**Enter number of unknowns ? 3**

**Enter A 0 0**

**3**

**Enter A 0 1**

**-0.1**

**Enter A 0 2**

**-0.2**

**Enter A 0 3**

**7.85**

**Enter A 1 0**

**0.1**

**Enter A 1 1**

**7**

**Enter A 1 2**

**-0.3**

**Enter A 1 3**

**-19.3**

**Enter A 2 0**

**0.3**

**Enter A 2 1**

**-0.2**

**Enter A 2 2**

**10**

**Enter A 2 3**

**71.4**

**[[ 3. -0.1 -0.2 7.85]**

**[ 0.1 7. -0.3 -19.3 ]**

**[ 0.3 -0.2 10. 71.4 ]]**

**SOLUTION:**

**[[ 1. 0. 0. 3. ]**

**[ 0. 1. 0. -2.5]**

**[ 0. 0. 1. 7. ]]**

**ANSWER**

**[[ 3. ]**

**[-2.5]**

**[ 7. ]]**