**Example:**

**Solve the following Equations using Gauss – Elimination method**

**x+y+z=3**

**2x+3y+z=6**

**x-y+z=1**

**Solution:**

**AX=B**

**=**

**[A, B] ~**

**[A, B] ~ R2 --> R2 – 2R1**

**[A, B] ~ R3 --> R3 – R1**

**[A, B] ~ R3 --> R3 + 2R2**

**Apply Backsubstitution,**

**x+y+z=3 (1)**

**y-z=0 (2)**

**-2z=-2 (3)**

**From (3) we get, z=1**

**Apply z=1 in (2) we get, y=1**

**Apply z=1 & y=1 in (1) we get, x=1**

**The solution is,**

**x=1 , y=1 , z=1**