```
> AA := Matrix([[5, 1, 1, 1], [1, 3, 1, 1], [1, -2, -9, 1], [1, 3, -2, 5]]);
```

$$AA := \begin{bmatrix} 5 & 1 & 1 & 1 \\ 1 & 3 & 1 & 1 \\ 1 & -2 & -9 & 1 \\ 1 & 3 & -2 & 5 \end{bmatrix} \tag{1}$$

```
> b := Vector([-6, 2, -7, 3]);
```

$$b := \begin{bmatrix} -6 \\ 2 \\ -7 \\ 3 \end{bmatrix} \tag{2}$$

```
> n := 4;
```

$$n := 4 \tag{3}$$

```
> x0 := [0, 0, 0, 0]:
  x1 := [0, 0, 0, 0]:
> for iter from 1 to 20 do
    for i from 1 to n do
      x1[i] := b[i];
      for j from 1 to n do
        x1[i] := x1[i] - AA[i, j]·x0[j];
      end do:
      x1[i] := x1[i]/AA[i, i];
    end do:
  x0 := evalf(x1);        #evalf>>分数とかでなく数値出だす
  print(iter, x0);
  end do:
```

```
1, [-1.200000000, 0.6666666667, 0.7777777778, 0.6000000000]
2, [-1.608888889, 0.6074074073, 0.5629629630, 0.7511111112]
3, [-1.584296296, 0.7649382717, 0.5474897119, 0.7825185186]
4, [-1.618989300, 0.7514293553, 0.5187050756, 0.6768921810]
5, [-1.589405322, 0.8077973477, 0.5061160189, 0.6804222770]
6, [-1.598867129, 0.8009556753, 0.4972691400, 0.6356490634]
7, [-1.586774776, 0.8219829753, 0.4927633981, 0.6381076766]
8, [-1.590570810, 0.8186345670, 0.4897074389, 0.6212705292]
9, [-1.585922507, 0.8265309473, 0.4881589539, 0.6228163974]
10, [-1.587501260, 0.8249823853, 0.4870924439, 0.6165295146]
11, [-1.585720869, 0.8279597673, 0.4865626093, 0.6173477984]
12, [-1.586374035, 0.8272701537, 0.4861897104, 0.6149933572]
13, [-1.585690644, 0.8283969890, 0.4860087794, 0.6153885990]
14, [-1.585958873, 0.8280977553, 0.4858782197, 0.6145034472]
15, [-1.585695884, 0.8285257353, 0.4858165626, 0.6146844092]
16, [-1.585805341, 0.8283983040, 0.4857707838, 0.6143503606]
17, [-1.585703890, 0.8285613990, 0.4857498236, 0.6144303994]
18, [-1.585748324, 0.8285078890, 0.4857337457, 0.6143038680]
19, [-1.585709101, 0.8285702367, 0.4857266407, 0.6143384296]
```

```
20, [ -1.585727061, 0.8285480103, 0.4857209840, 0.6142903344 ]                (4)
>
>
>
```