

#### Step 1

$$Q_{2\to 2}(x_2) = \{0,0\}$$

$$Q_{4\to 3}(x_4) = \{0,0\}$$

$$Q_{5\to 4}(x_5) = \{0,0\}$$

### Step 2

$$R_{2\to 3}(x_3) = \{4,5\}$$

$$R_{3\to3}(x_3)=\{4,10\}$$

$$R_{4\to 1}(x_1) = \{4,8\}$$

#### Step 3

$$Q_{1\to 1}(x_1) = \{4,8\}$$

$$Q_{3\rightarrow 1}(x_3)=\{8,15\}$$

#### Step 4

$$R_{1\to 1}(x_1)=\{18,16\}$$

$$R_{1\to 3}(x_3)=\{10,9\}$$

#### Step 5

$$Q_{1\rightarrow 4}(x_1)=\{18,16\}$$

$$Q_{3\rightarrow 2}(x_3)=\{14,19\}$$

$$Q_{3\rightarrow 3}(x_3)=\{14,14\}$$

### Step 7

$$R_{4\to5}(x_5)=\{24,22\}$$

$$R_{3\rightarrow4}(x_4)=\{24,18\}$$

$$R_{2\to 2}(x_2) = \{24, 21\}$$

#### Step 8

$$Z_1(x_1) = \{22, 24\}$$
  $Z_2(x_2) = \{24, 21\}$   $Z_3(x_3) = \{18, 24\}$   
 $Z_4(x_4) = \{24, 18\}$   $Z_5(x_5) = \{24, 22\}$ 

#### Step 9

$$x_1 = B$$
  $x_2 = R$   $x_3 = B$   $x_4 = R$   $x_5 = R$ 

