```
> with(linalg):
> a := matrix( [ [10,9,8,1] , [2,2,3,1] , [3,3,7,1] ] );
```

$$a := \begin{bmatrix} 10 & 9 & 8 & 1 \\ 2 & 2 & 3 & 1 \\ 3 & 3 & 7 & 1 \end{bmatrix} \tag{1}$$

```
> a1 := mulrow( a , 1 , 1/10);
```

$$a1 := \begin{bmatrix} 1 & \frac{9}{10} & \frac{4}{5} & \frac{1}{10} \\ 2 & 2 & 3 & 1 \\ 3 & 3 & 7 & 1 \end{bmatrix} \tag{2}$$

```
> addrow( a1, 1 , 2, -2);
```

$$\begin{bmatrix} 1 & \frac{9}{10} & \frac{4}{5} & \frac{1}{10} \\ 0 & \frac{1}{5} & \frac{7}{5} & \frac{4}{5} \\ 3 & 3 & 7 & 1 \end{bmatrix} \tag{3}$$

```
> addrow( % , 1 , 3 , -3 );
```

$$\begin{bmatrix} 1 & \frac{9}{10} & \frac{4}{5} & \frac{1}{10} \\ 0 & \frac{1}{5} & \frac{7}{5} & \frac{4}{5} \\ 0 & \frac{3}{10} & \frac{23}{5} & \frac{7}{10} \end{bmatrix} \tag{4}$$

```
> mulrow( % , 2 , 5 );
```

$$\begin{bmatrix} 1 & \frac{9}{10} & \frac{4}{5} & \frac{1}{10} \\ 0 & 1 & 7 & 4 \\ 0 & \frac{3}{10} & \frac{23}{5} & \frac{7}{10} \end{bmatrix} \tag{5}$$

```
> addrow( % , 2 , 3, -3/10 );
```

$$\begin{bmatrix} 1 & \frac{9}{10} & \frac{4}{5} & \frac{1}{10} \\ 0 & 1 & 7 & 4 \\ 0 & 0 & \frac{5}{2} & -\frac{1}{2} \end{bmatrix} \tag{6}$$

```
> mulrow( % , 3 , 2/5);
```

$$\begin{bmatrix} 1 & \frac{9}{10} & \frac{4}{5} & \frac{1}{10} \\ 0 & 1 & 7 & 4 \\ 0 & 0 & 1 & -\frac{1}{5} \end{bmatrix} \tag{7}$$

```
> addrow( % , 2 , 1, -9/10 );
```

$$\begin{bmatrix} 1 & 0 & -\frac{11}{2} & -\frac{7}{2} \\ 0 & 1 & 7 & 4 \\ 0 & 0 & 1 & -\frac{1}{5} \end{bmatrix} \tag{8}$$

```
> addrow( % , 3 , 2 , -7 );
```

$$\begin{bmatrix} 1 & 0 & -\frac{11}{2} & -\frac{7}{2} \\ 0 & 1 & 0 & \frac{27}{5} \\ 0 & 0 & 1 & -\frac{1}{5} \end{bmatrix} \tag{9}$$

```
> addrow( % , 3 , 1, 11/2);
```

$$\begin{bmatrix} 1 & 0 & 0 & -\frac{23}{5} \\ 0 & 1 & 0 & \frac{27}{5} \\ 0 & 0 & 1 & -\frac{1}{5} \end{bmatrix} \tag{10}$$