

```

A = SparseArray[
  {
    {1, 1} → r[{1, 2}, {4, 5}], {1, 2} → r[{3}, {6}],
    {2, 1} → r[{7, 8}], {2, 2} → r[{9]}
  },
  {2, 2}
]
SparseArray[<4>, {2, 2}]

A // MatrixForm

$$\begin{pmatrix} r[\{1, 2\}, \{4, 5\}] & r[\{3\}, \{6\}] \\ r[\{7, 8\}] & r[\{9\}] \end{pmatrix}$$


SparseArray[{{1, 1} → zoom[7], {2, 2} → 2, {3, 3} → 3, {1, 3} → 4}] // MatrixForm

$$\begin{pmatrix} \text{zoom}[7] & 0 & 4 \\ 0 & 2 & 0 \\ 0 & 0 & 3 \end{pmatrix}$$


Flatten[A]
SparseArray[<4>, {4}]

Flatten[A] // Normal
{r[{1, 2}, {4, 5}], r[{3}, {6}], r[{7, 8}], r[{9}]}

Delete[A, 1] // Normal
{{r[{7, 8}], r[{9}]}}

Drop[A, {1}] // Normal
{{r[{7, 8}], r[{9}]}}

Drop[A, {}, {2}] // Normal
{{r[{1, 2}, {4, 5}]}, {r[{7, 8}]}}

A[[2, 2]] = 0
0

A // MatrixForm

$$\begin{pmatrix} r[\{1, 2\}, \{4, 5\}] & r[\{3\}, \{6\}] \\ r[\{7, 8\}] & 0 \end{pmatrix}$$


A // ArrayRules
{{1, 1} → r[{1, 2}, {4, 5}], {1, 2} → r[{3}, {6}], {2, 1} → r[{7, 8}], {_, _} → 0}

```