

```

In[18]:= n = 3;
A = {{1, 2, 3}, {2, 0, 1}, {3, 3, 0}};
MatrixForm[A]
B[x_, y_, Mat_] :=
  Table[
    Table[
      Mat[[i, j]], {j, Select[Table[m, {m, 1, n}], # != y &]}],
    {i, Select[Table[m, {m, 1, n}], # != x &]}];
MatrixForm[B[1, 1, A]]
MatrixForm[B[1, 2, A]]
MatrixForm[B[1, 3, A]]
B[1, 1, A]
Deter[2, x_] := x[[1, 1]] * x[[2, 2]] - x[[1, 2]] * x[[2, 1]];
Deter[3, x_] := Sum[(-1)^(1 + j) * x[[1, j]] * Deter[2, B[1, j, A]], {j, 1, n}]
Deter[3, A]
Det[A]

```

```

Out[20]//MatrixForm=

$$\begin{pmatrix} 1 & 2 & 3 \\ 2 & 0 & 1 \\ 3 & 3 & 0 \end{pmatrix}$$


```

```

Out[22]//MatrixForm=

$$\begin{pmatrix} 0 & 1 \\ 3 & 0 \end{pmatrix}$$


```

```

Out[23]//MatrixForm=

$$\begin{pmatrix} 2 & 1 \\ 3 & 0 \end{pmatrix}$$


```

```

Out[24]//MatrixForm=

$$\begin{pmatrix} 2 & 0 \\ 3 & 3 \end{pmatrix}$$


```

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Out[25]= {{0, 1}, {3, 0}}

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Out[28]= 21

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Out[29]= 21

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