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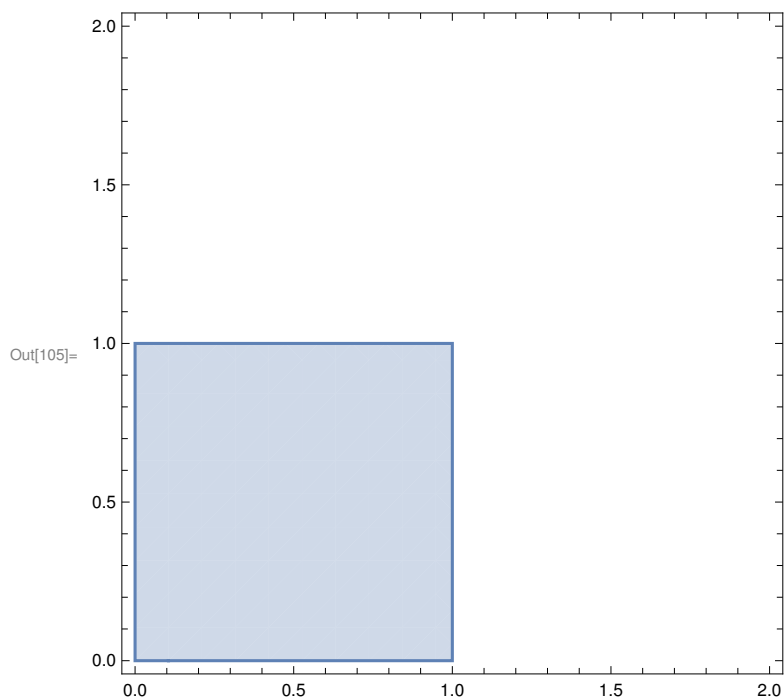
In[102]:= eq = {x == u + v, y == 2 v}
          T = Solve[eq, {x, y}][[1]]
          Tinv = Solve[eq, {u, v}][[1]]
          RegionPlot[{u ≥ 0 && u ≤ 1 && v ≥ 0 && v ≤ 1}, {u, 0, 2}, {v, 0, 2}]
          RegionPlot[{u ≥ 0 && u ≤ 1 && v ≥ 0 && v ≤ 1} /. Tinv, {x, 0, 2}, {y, 0, 2}]

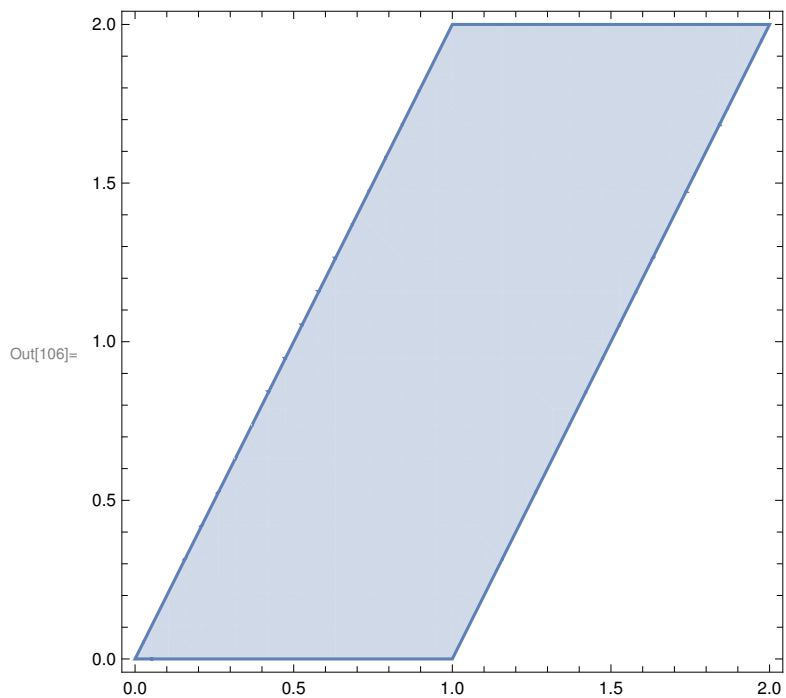
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Out[102]= {x == u + v, y == 2 v}

Out[103]= {x → u + v, y → 2 v}

Out[104]= $\left\{u \rightarrow \frac{1}{2} (2 x - y), v \rightarrow \frac{y}{2}\right\}$





```
In[107]:= Jac = D[{x, y} /. T, {{u, v}}]
MatrixForm[Jac]
Det[Jac]
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Out[107]= $\{\{1, 1\}, \{0, 2\}\}$

Out[108]//MatrixForm=

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

Out[109]= 2

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In[113]:= Jacinv = D[{u, v} /. Tinv, {{x, y}}]
MatrixForm[Jacinv]
Det[Jacinv]
```

Out[113]= $\{\{1, -\frac{1}{2}\}, \{0, \frac{1}{2}\}\}$

Out[114]//MatrixForm=

$$\begin{pmatrix} 1 & -\frac{1}{2} \\ 0 & \frac{1}{2} \end{pmatrix}$$

Out[115]= $\frac{1}{2}$