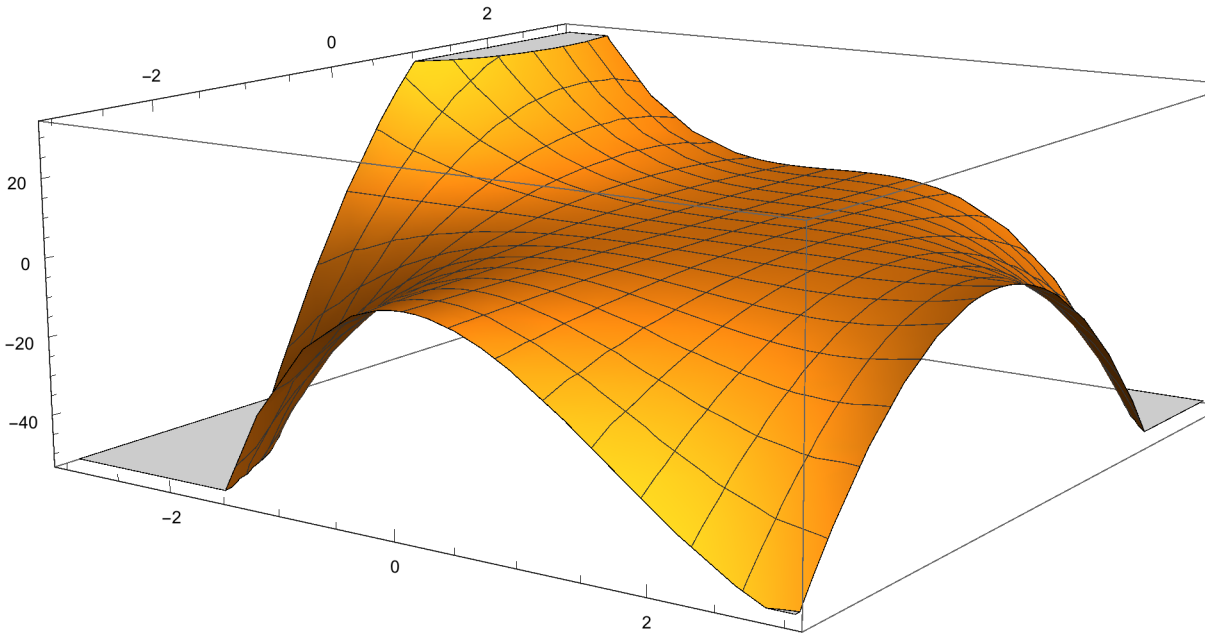
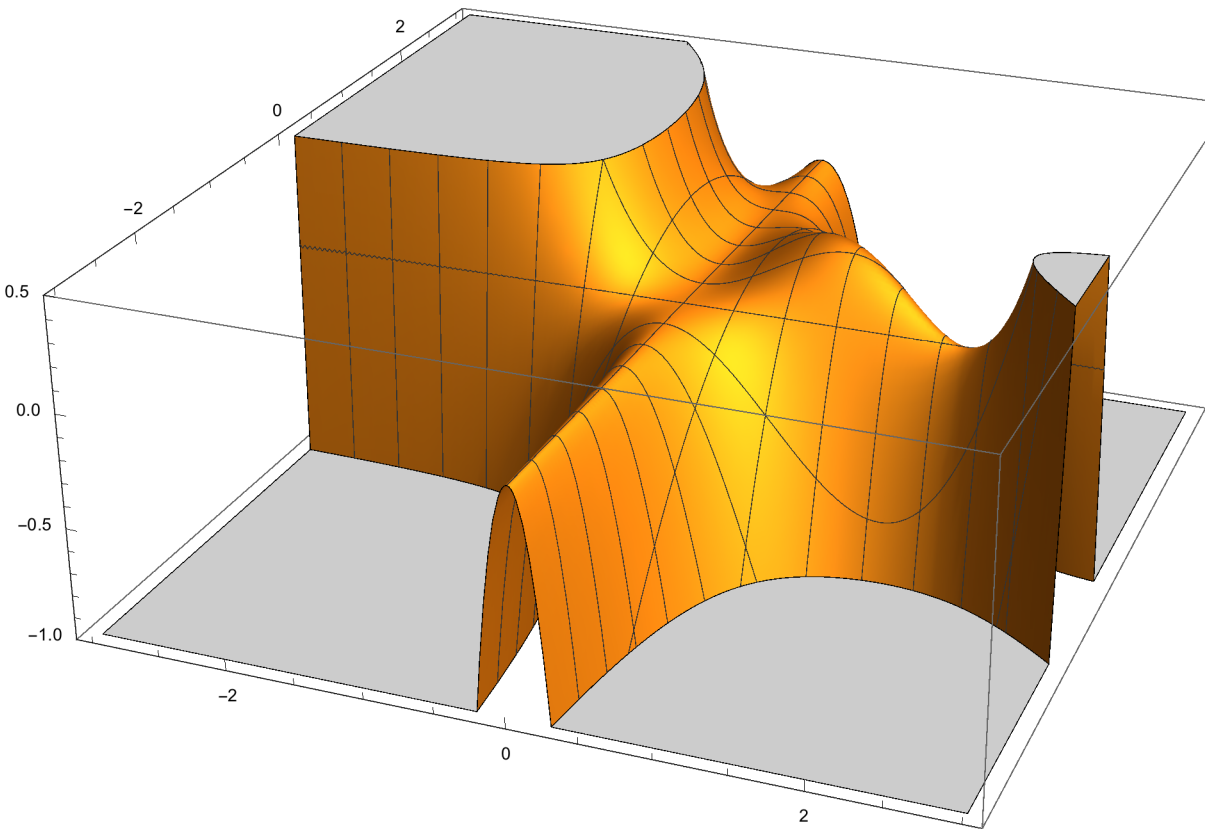
```
Plot3D[x^2 * y (2 - x - y), {x, -3, 3}, {y, -3, 3}]
```

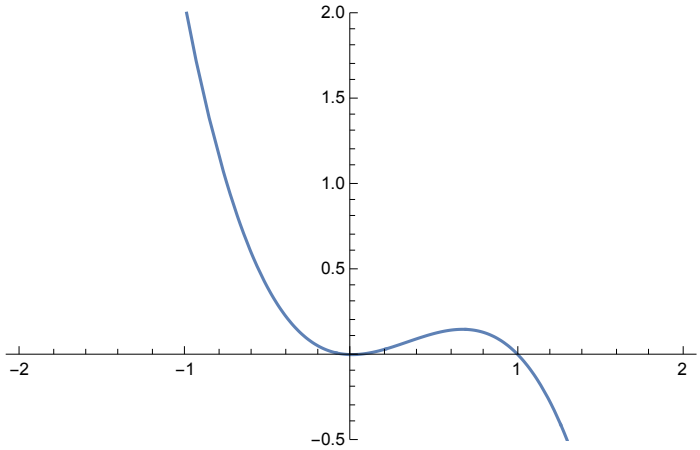



```
a = Plot3D[x^2 * y (2 - x - y),
  {x, -3, 3}, (* x-range *)
  {y, -3, 3}, (* y-range *)
  PlotRange → {-1, 0.5}, (* z-range *)
  PlotPoints → 150 (*snyggare slätare kurva*)
 ]
```

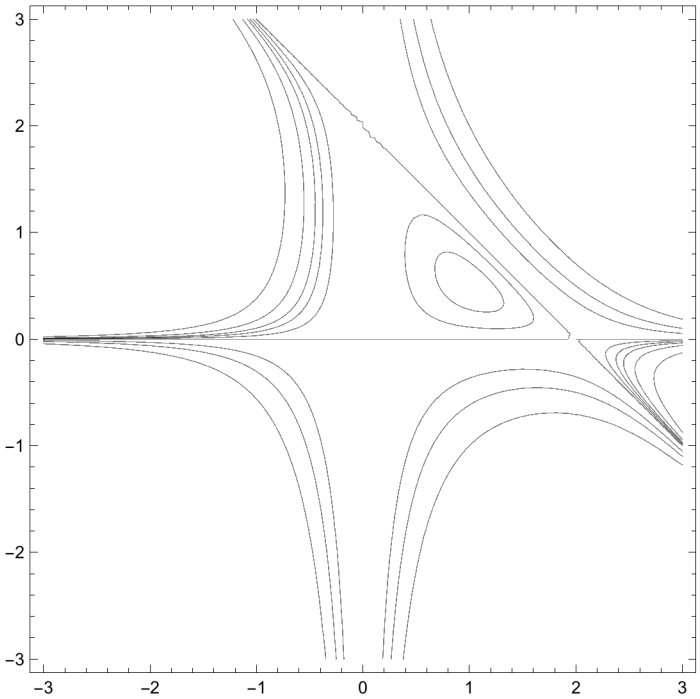


Vi tittar på kurvan y=1:

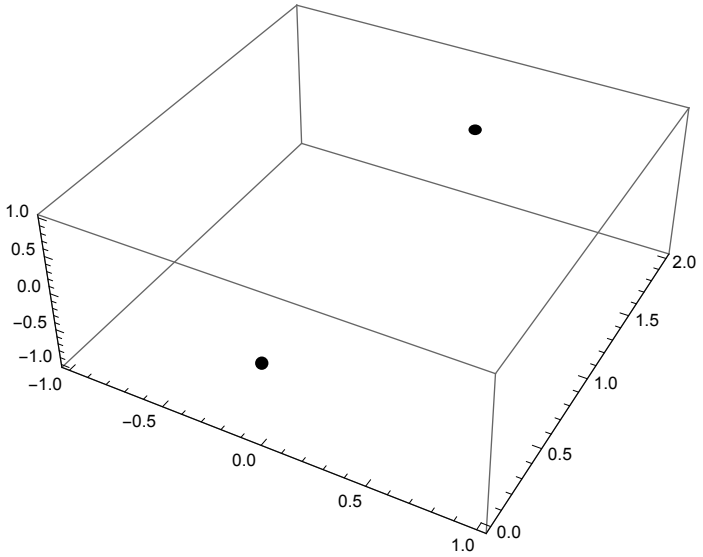
```
Plot[x^2 * (1 - x), {x, -2, 2}, PlotRange → {-0.5, 2}]
```



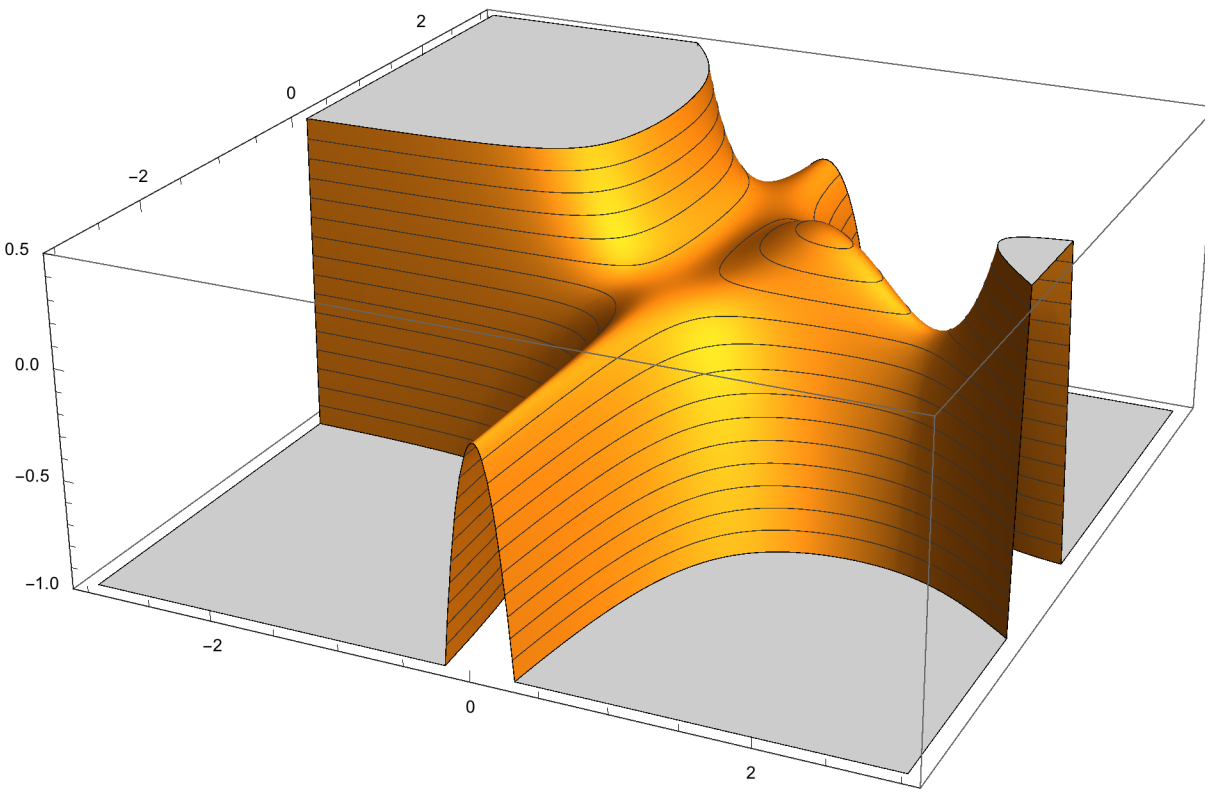

```
ContourPlot[x^2 * y * (2 - x - y),
 {x, -3, 3},
 {y, -3, 3},
 Contours → {-2, -1, -0.5, 0, 0.1, 0.2, 0.3, 0.5, 1},
 ContourShading → None
]
```



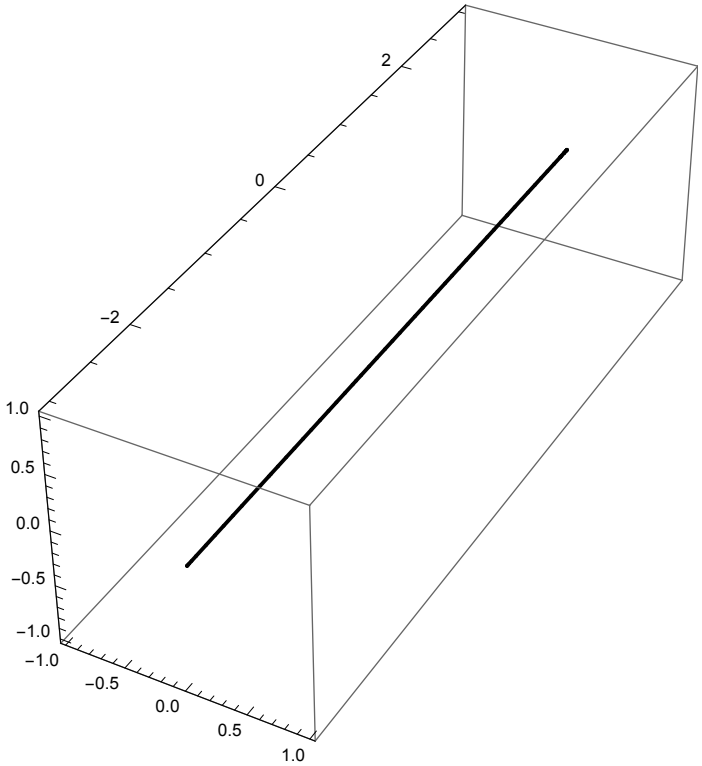
```
b = ListPointPlot3D[{{0, 0, 0}, {0, 2, 0}}, PlotStyle → {Black, PointSize[0.02]}]
```



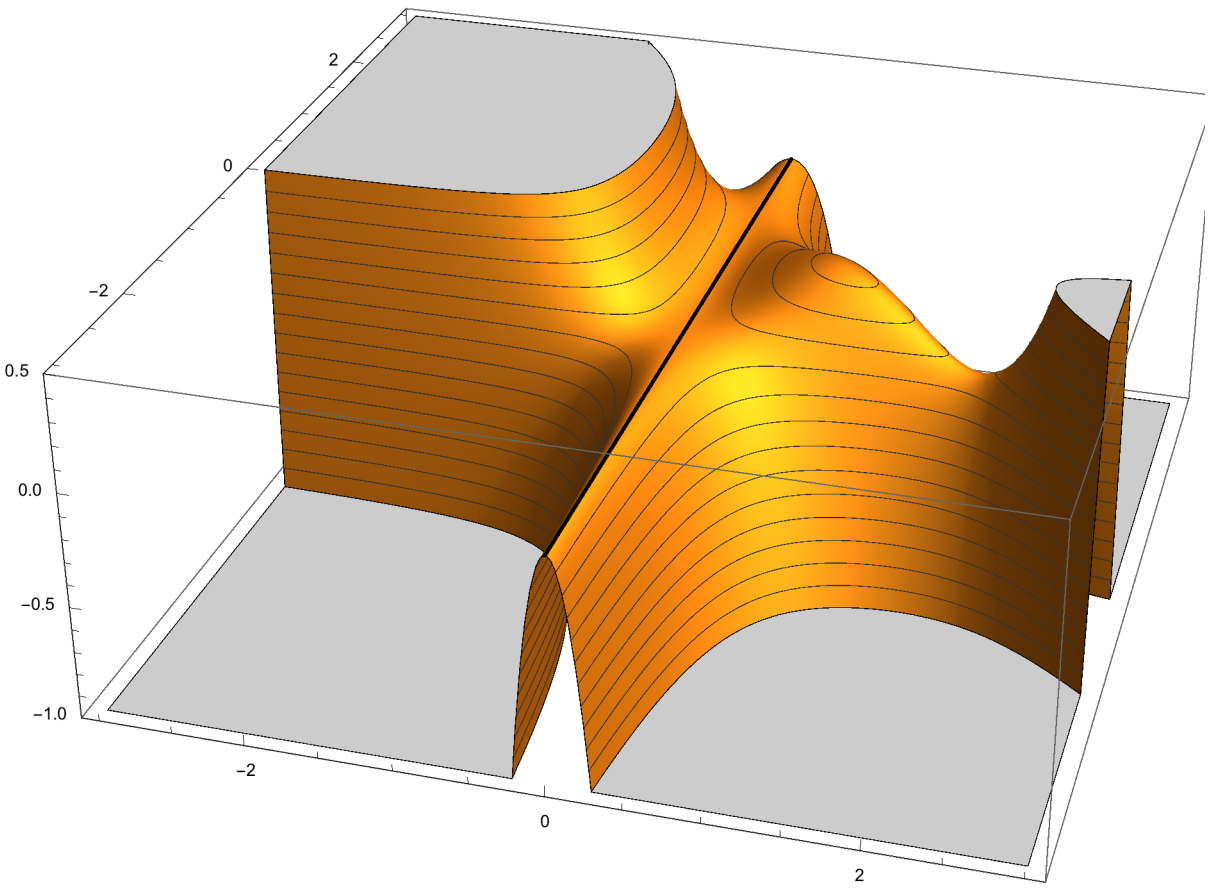

```
c = Plot3D[x^2 * y (2 - x - y),
  {x, -3, 3},
  {y, -3, 3},
  PlotRange → {-1, 0.5},
  PlotPoints → 150,
  MeshFunctions → {#3 &}
 ]
```



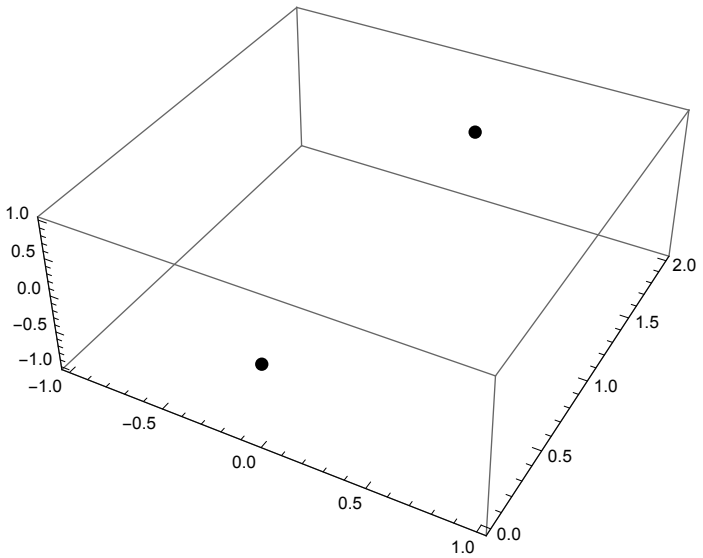
```
d = ParametricPlot3D[{0, t, 0}, {t, -3, 3}, PlotStyle → Directive[Black, Thick]]
```



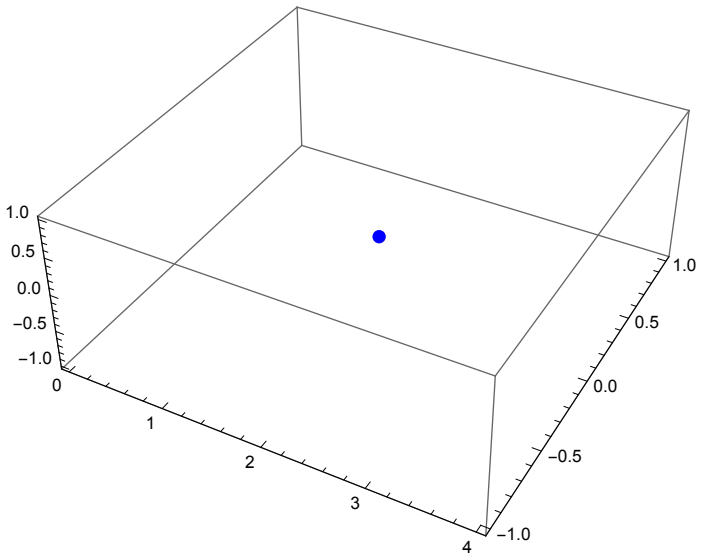

```
Show[c, d]
```



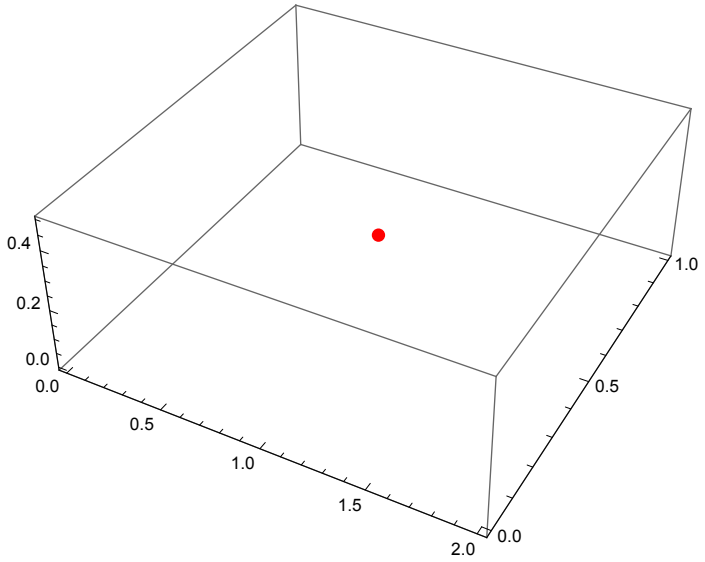
```
e = ListPointPlot3D[{{0, 0, 0}, {0, 2, 0}},
  PlotStyle → {Black, PointSize[0.02]}
  (* punkterna ska vara svart med en storlek som är lagom till figuren*)
 ]
```



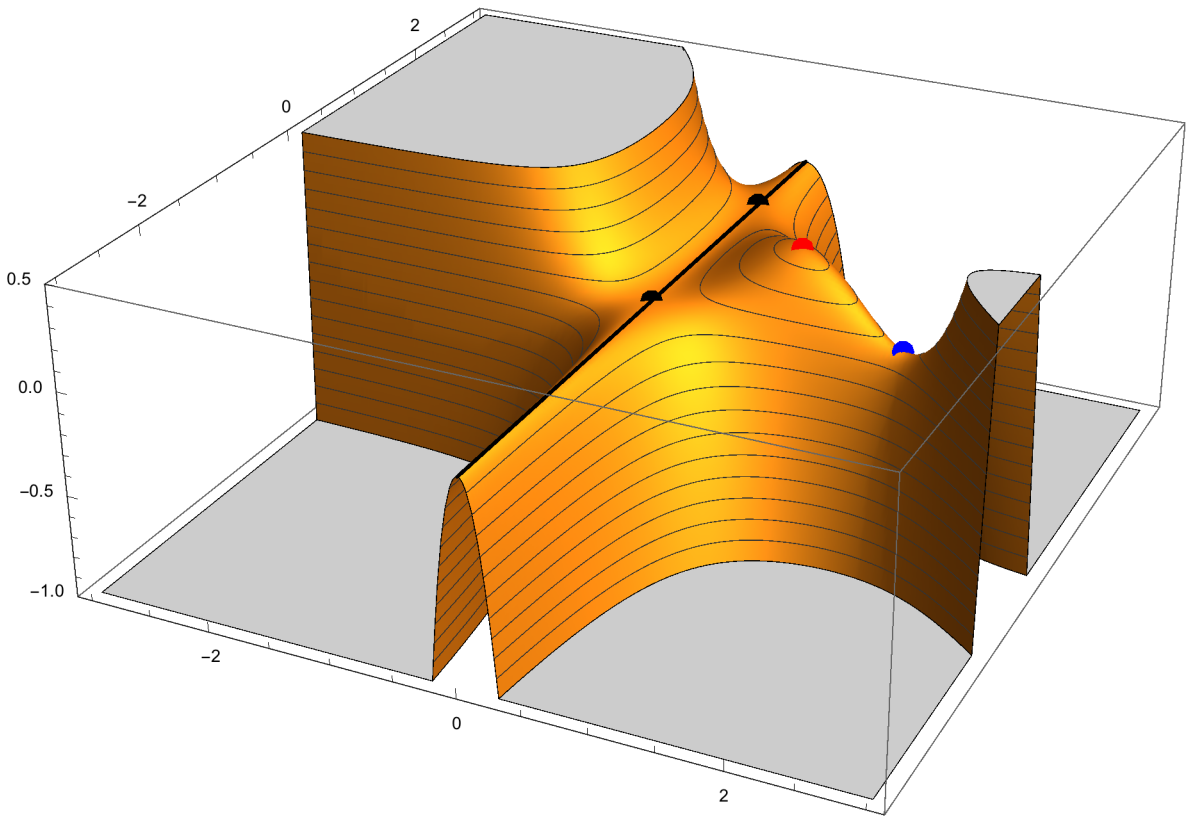

```
f = ListPointPlot3D[{{2, 0, 0}}, PlotStyle → {Blue, PointSize[0.02]}]
```



```
g = ListPointPlot3D[{{1, 1 / 2, 1 / 4}}, PlotStyle → {Red, PointSize[0.02]}]
```




```
Show[c, d, e, f, g]
```



```
Show[a, c, d, e, f, g]
```