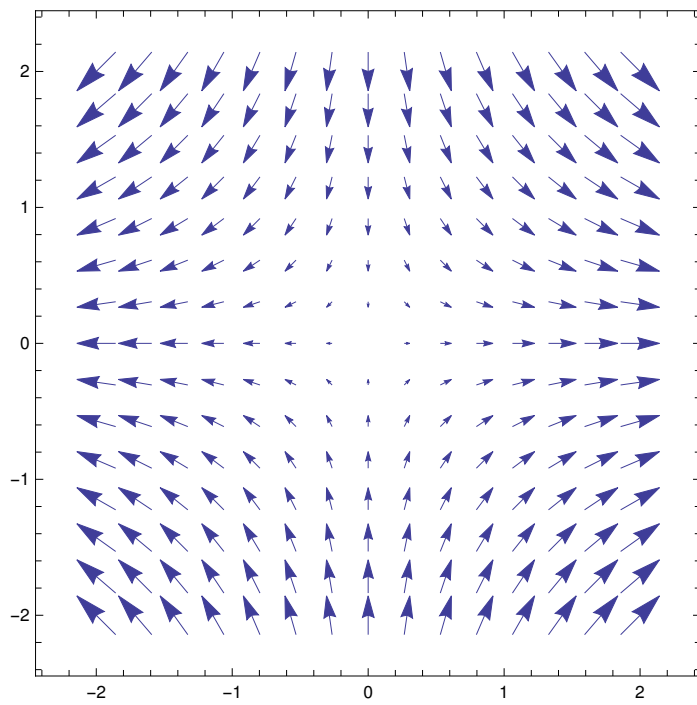


```
f = x^2 - y^2
Gf = Grad[f, {x, y}]
VectorPlot[Gf, {x, -2, 2}, {y, -2, 2}]
Div[Gf, {x, y}]
Curl[Gf, {x, y}]
```

$$x^2 - y^2$$

$$\{2x, -2y\}$$

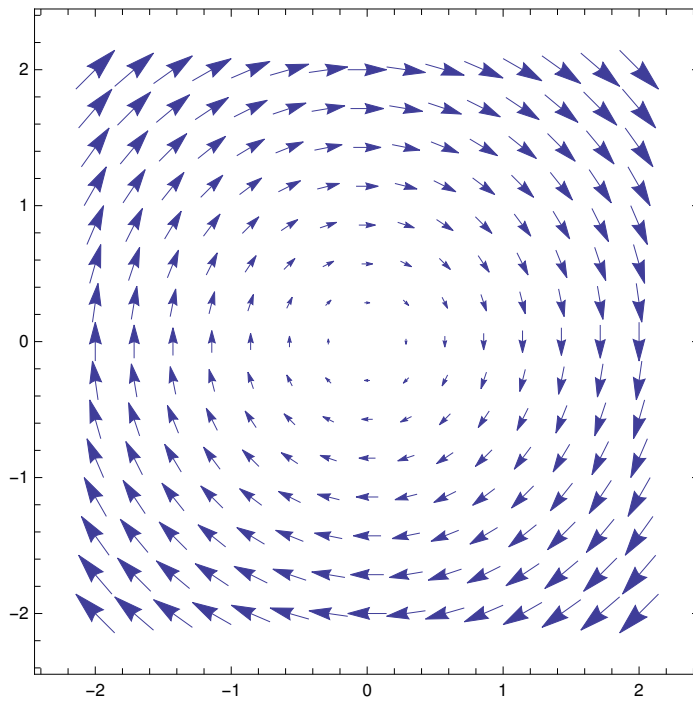


0

0

```
F = {y, -x}
VectorPlot[F, {x, -2, 2}, {y, -2, 2}]
Div[F, {x, y}]
Curl[F, {x, y}]
```

$\{y, -x\}$



0

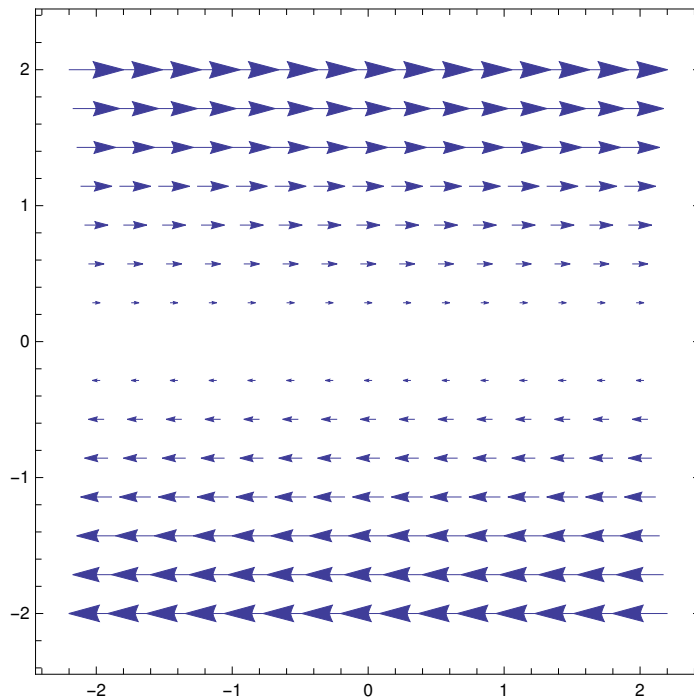
-2

```

F = {y, 0}
VectorPlot[F, {x, -2, 2}, {y, -2, 2}]
Div[F, {x, y}]
Curl[F, {x, y}]

```

```
{y, 0}
```



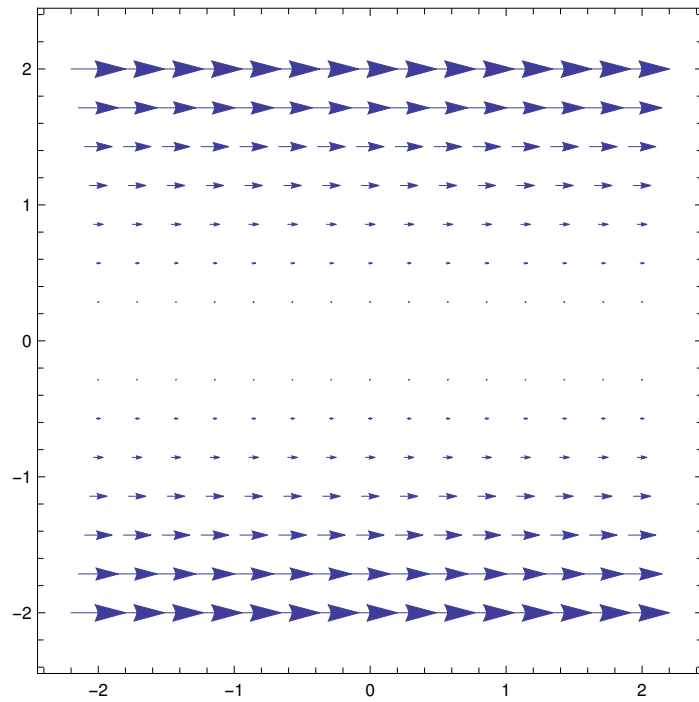
```
0
```

```
-1
```

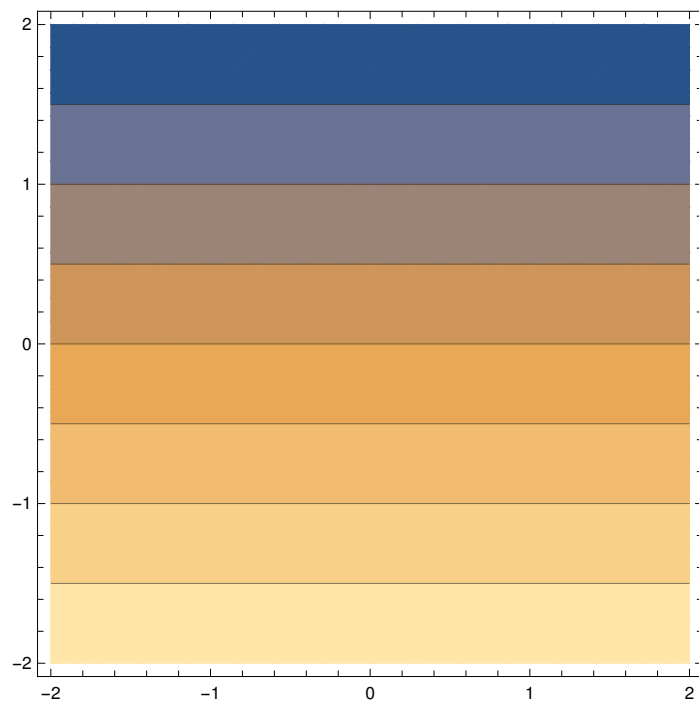
```

F = {y^2, 0}
VectorPlot[F, {x, -2, 2}, {y, -2, 2}]
Div[F, {x, y}]
CF = Curl[F, {x, y}]
CF /. {x -> 1, y -> 1} // N
ContourPlot[CF, {x, -2, 2}, {y, -2, 2}]
{y^2, 0}

```



0

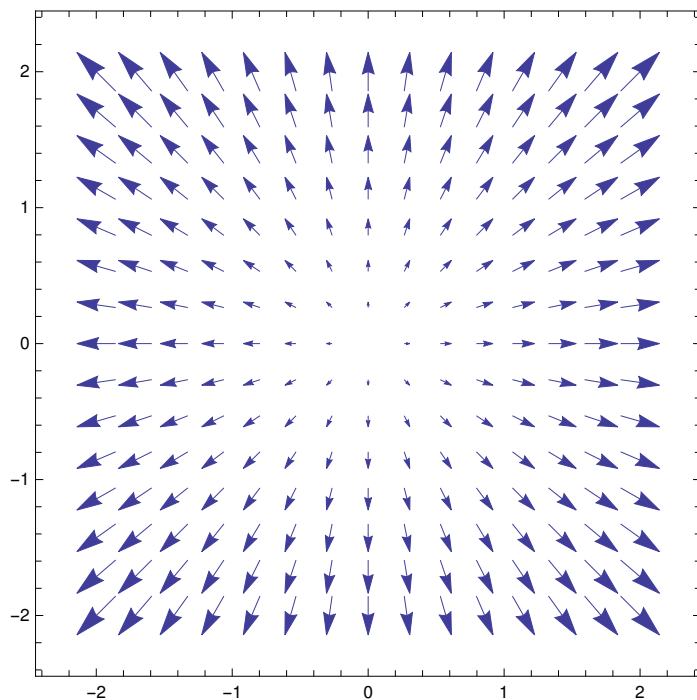
 $-2y$ $-2.$ 

```

F = {x, y}
VectorPlot[F, {x, -2, 2}, {y, -2, 2}]
Div[F, {x, y}]
Curl[F, {x, y}]

```

{x, y}



2

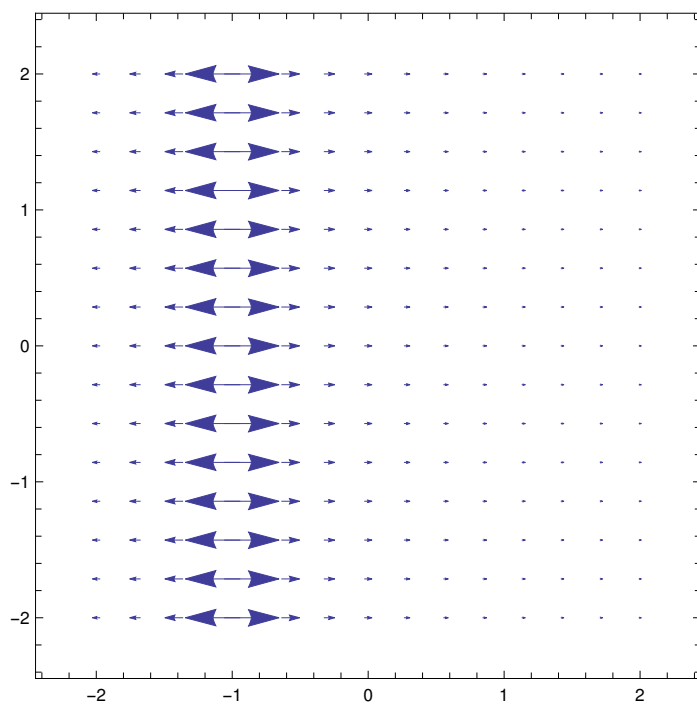
0

```

F = {1 / (1 + x), 0}
VectorPlot[F, {x, -2, 2}, {y, -2, 2}]
DF = Div[F, {x, y}]
Curl[F, {x, y}]
ContourPlot[DF, {x, -2, 2}, {y, -2, 2}]

```

$\left\{ \frac{1}{1+x}, 0 \right\}$



$$-\frac{1}{(1+x)^2}$$

0

