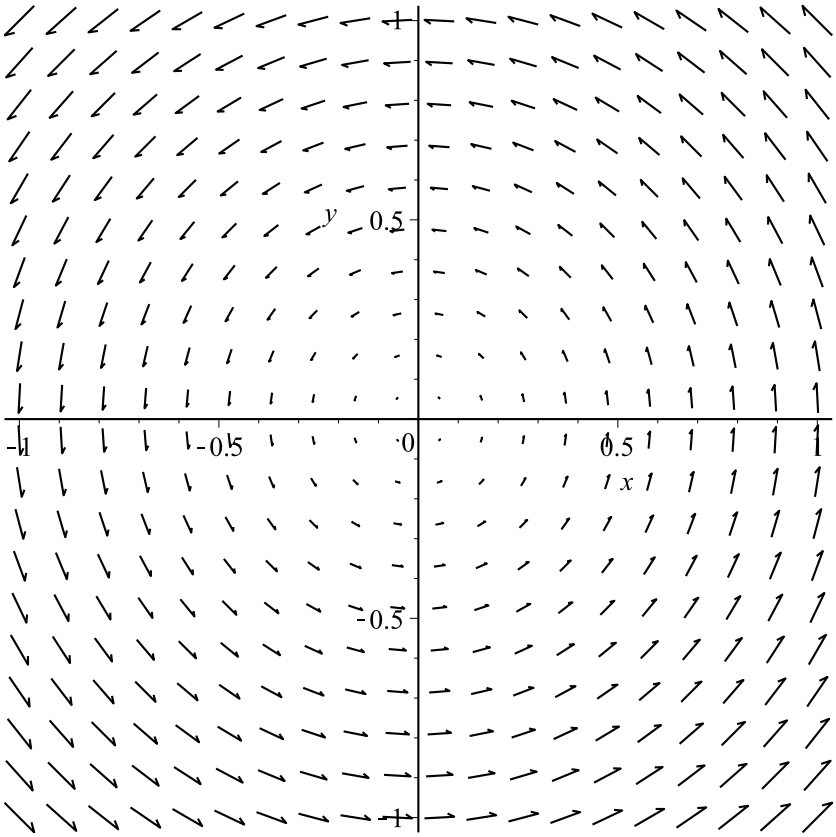
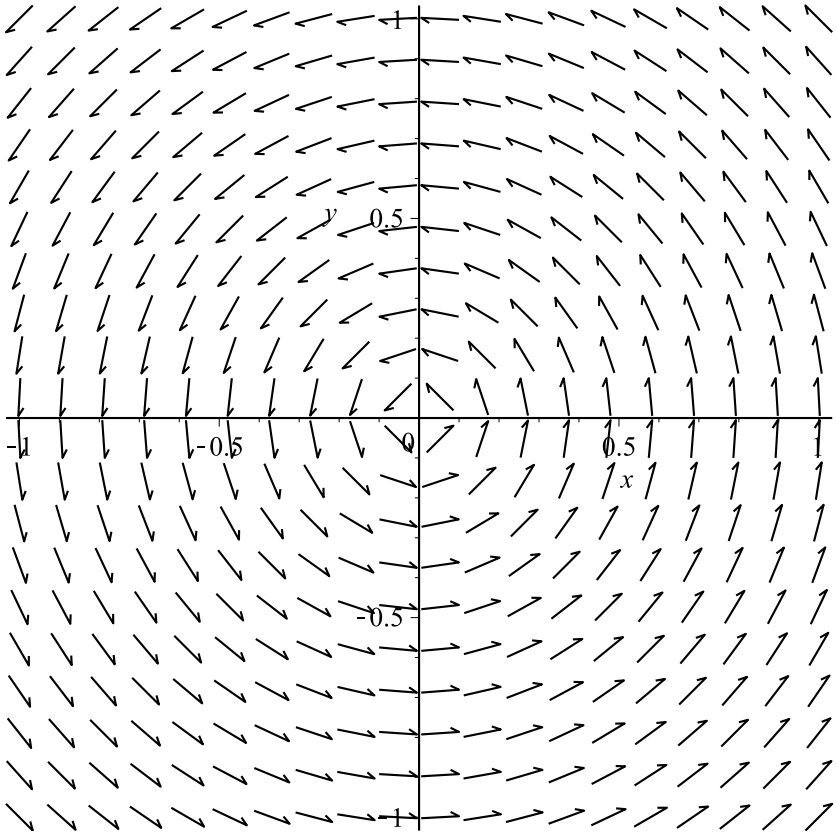
Examples for how to plot a vector field in Maple. Its straightforward and a useful way to visualize these.

Example 1: F(x,y)=<-y,x>. In the first plot (default), the vectors are scaled in a relative way (note that the vector at (1,0) is <0,1> which has length 1).
See the help file (look for "fieldstrength"). In the second plot, we scale all vectors the same:

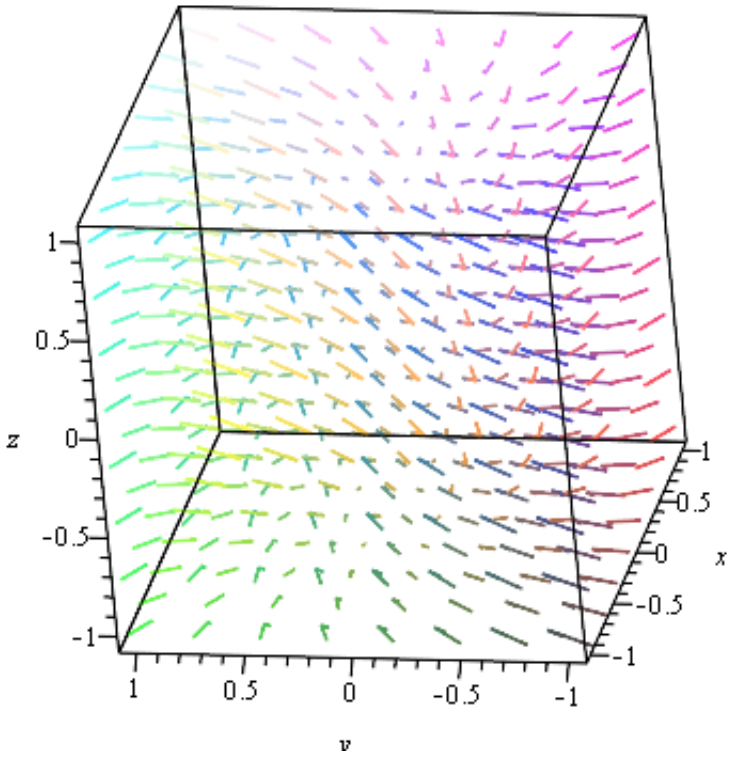
```
> with(plots):
> fieldplot([-y,x],x=-1..1,y=-1..1);
```




```
> fieldplot([-y,x],x=-1..1,y=-1..1,fieldstrength=fixed);
```




```
> fieldplot3d([x,-y,-x],x=-1..1,y=-1..1,z=-1..1);
```



Plot level curves of f together with its gradient vector field.

(Here, f(x,y)=cos(x)-2sin(y))

```
> F:=cos(x)-2*sin(y);
```

$$F := \cos(x) - 2\sin(y) \quad (1)$$

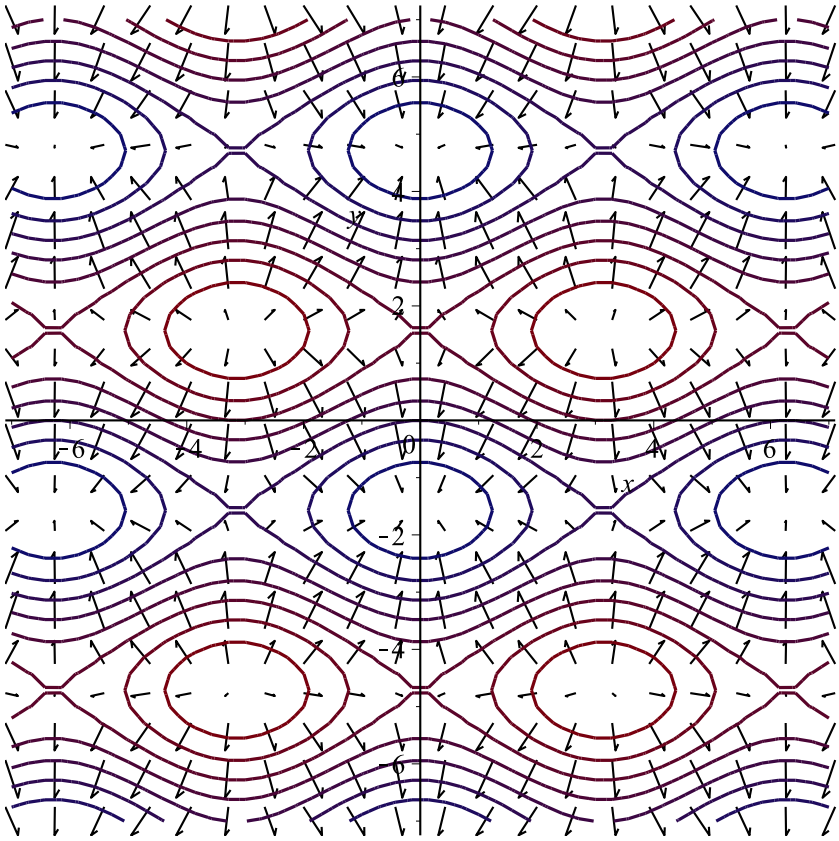
```
> A:=fieldplot([diff(F,x), diff(F,y)],x=-7..7,y=-7..7);
```

$$A := PLOT(\ldots) \quad (2)$$

```
> B:=contourplot(F,x=-7..7,y=-7..7);
```

$$B := PLOT(\ldots) \quad (3)$$

```
> display(A,B);
```


6
4
y
2
-6
-4
-2
0
2
4
6
x
-2
-4
-6