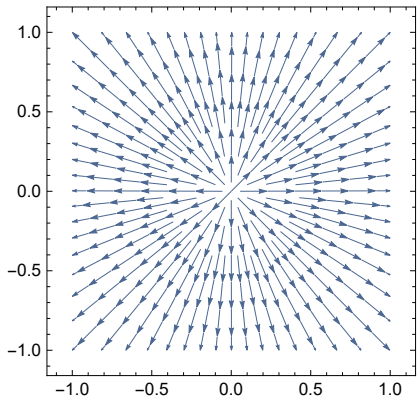
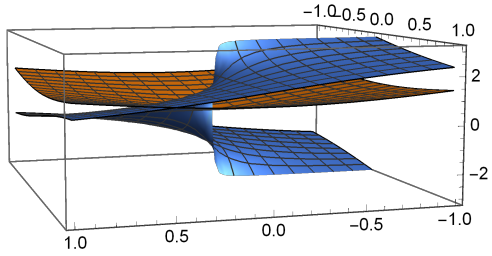
In[ ]:=
```
f[x_, y_] := x + i y;
f[x, y]
StreamPlot[{Re[f[x, y]], Im[f[x, y]]}, {x, -1, 1}, {y, -1, 1}]
Plot3D[{Abs[f[x, y]], Arg[f[x, y]]}, {x, -1, 1}, {y, -1, 1}]
DensityPlot[ Arg[f[x, y]], {x, -1, 1}, {y, -1, 1}]
DensityPlot[{Abs[f[x, y]], Arg[f[x, y]]}, {x, -1, 1}, {y, -1, 1}]
Plot3D[{Re[f[x, y]], Im[f[x, y]]}, {x, -1, 1}, {y, -1, 1}]
Plot3D[Re[f[x, y]], {x, -1, 1}, {y, -1, 1}]
```

Out[ ]= x + i y

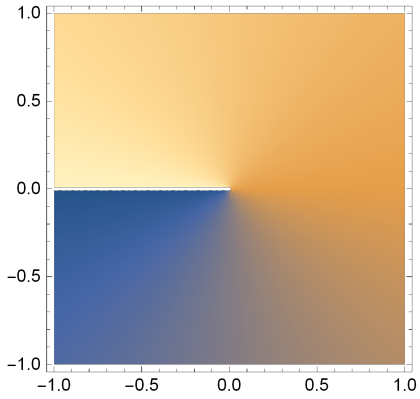
Out[ ]=



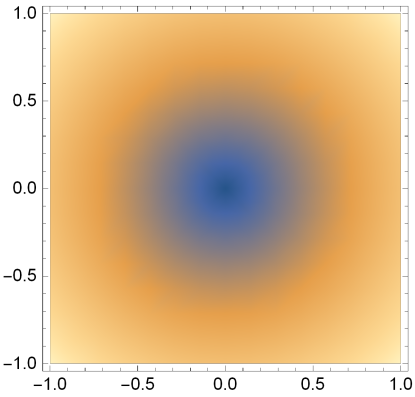
Out[ ]=



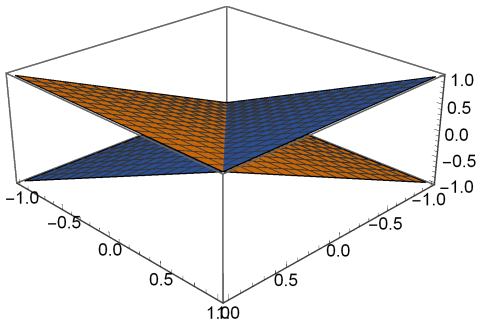
Out[ ]=



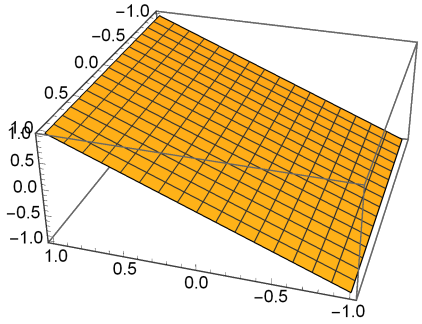
Out[ ]=



Out[ ]=



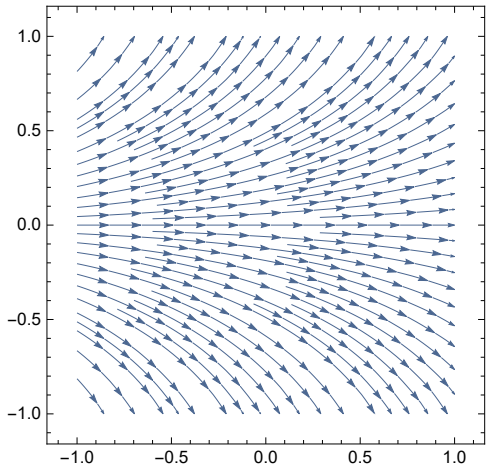
Out[ ]=



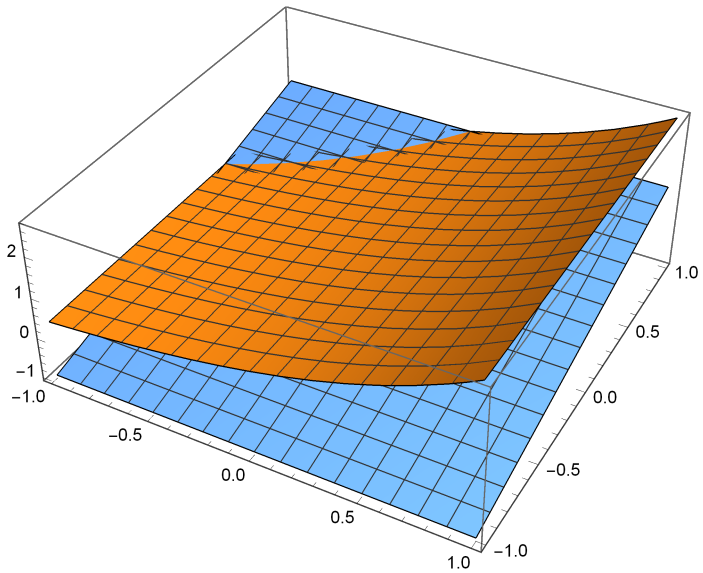
In[ ]:=
```
f[x_, y_] := Exp[x + i y];
f[x, y]
StreamPlot[{Re[f[x, y]], Im[f[x, y]]}, {x, -1, 1}, {y, -1, 1}]
Plot3D[{Abs[f[x, y]], Arg[f[x, y]]}, {x, -1, 1}, {y, -1, 1}]
DensityPlot[ Arg[f[x, y]], {x, -1, 1}, {y, -1, 1}]
DensityPlot[{Abs[f[x, y]], Arg[f[x, y]]}, {x, -1, 1}, {y, -1, 1}]
Plot3D[{Re[f[x, y]], Im[f[x, y]]}, {x, -1, 1}, {y, -1, 1}]
Plot3D[Re[f[x, y]], {x, -1, 1}, {y, -1, 1}]
```

Out[ ]= $e^{x+i\,y}$

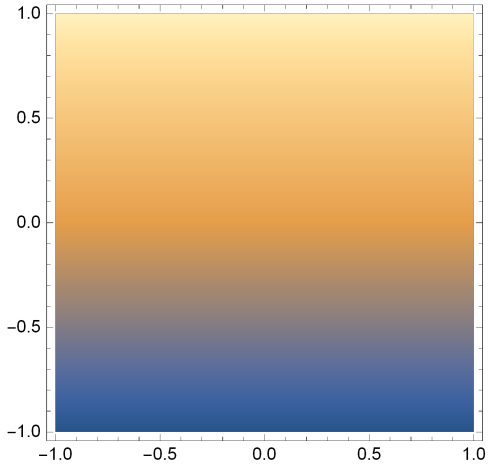
Out[ ]=


1.0
0.5
0.0
−0.5
−1.0
−1.0
−0.5
0.0
0.5
1.0

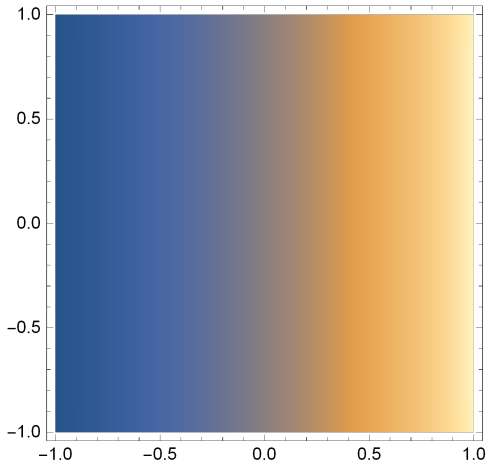
Out[ ]=


2
1
0
−1
−1.0
−0.5
0.0
0.5
1.0
1.0
0.5
0.0
−0.5
−1.0

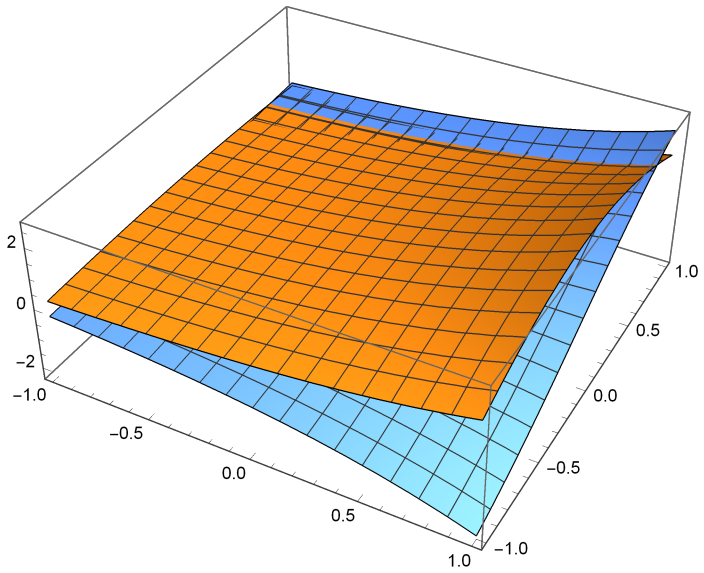
Out[ ]=


1.0
0.5
0.0
−0.5
−1.0
−1.0
−0.5
0.0
0.5
1.0

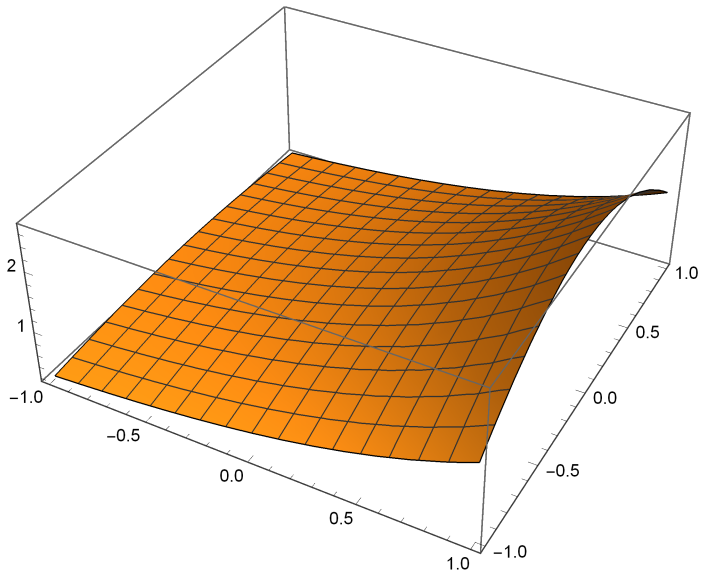
Out[ ]=


1.0
0.5
0.0
−0.5
−1.0
−1.0
−0.5
0.0
0.5
1.0

Out[ ]=


2
0
−2
−1.0
−0.5
0.0
0.5
1.0
1.0
0.5
0.0
−0.5
−1.0

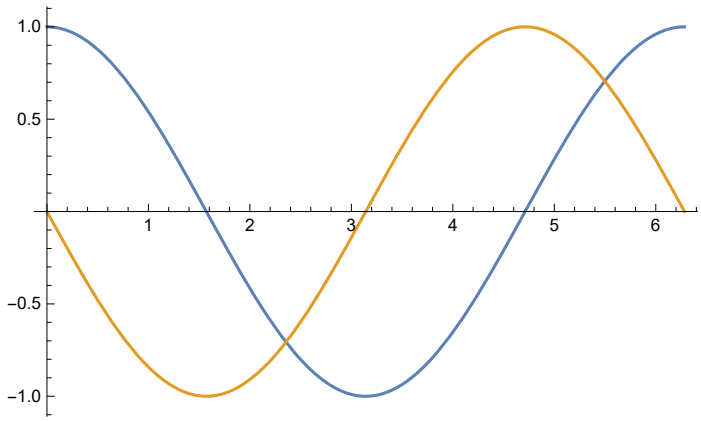
Out[ ]=


2
1
−1.0
−0.5
0.0
0.5
1.0
1.0
0.5
0.0
−0.5
−1.0

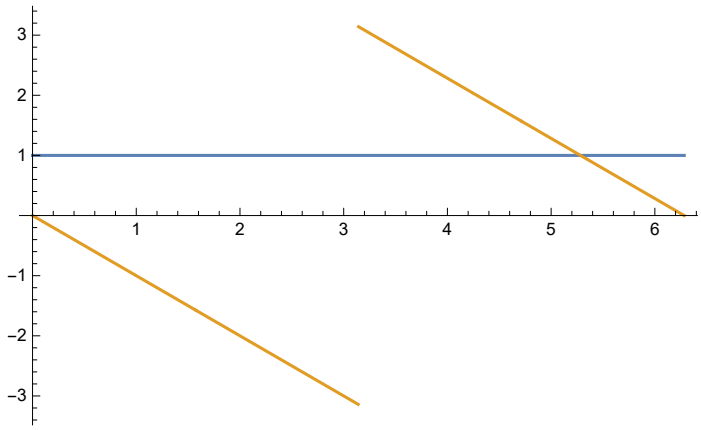
In[•]:=
```
f[t_] := Exp[-ⅈ t];
f[t]
Plot[{Re[f[t]], Im[f[t]]}, {t, 0, 2 Pi}]
Plot[{Abs[f[t]], Arg[f[t]]}, {t, 0, 2 Pi}]
ParametricPlot[{Re[f[t]], Im[f[t]]} , {t, 0, 2 Pi}]
ComplexPlot[f[t], {t, 1 - ⅈ, 1 + ⅈ}]
```

Out[•]= $e^{-i t}$

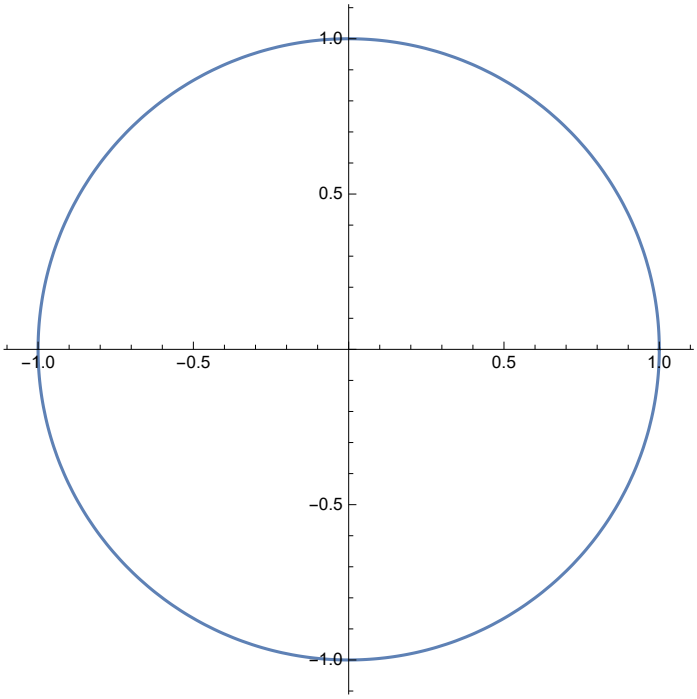
Out[•]=



Out[•]=



Out[ ]=



ComplexPlot: Corners for t in {t, 1 – *i*, 1 + *i*} must have distinct machine–precision real and imaginary parts.

Out[ ]= `ComplexPlot[f[t], {t, 1 - i, 1 + i}]`