```
<< LinearAlgebra`MatrixManipulation`

z = 2000;

m = Table[(1)^Random[Integer] (Random[]), {z}, {z}];

Norm[m, 2] // Timing
```

{36.773 Second, 999.921}
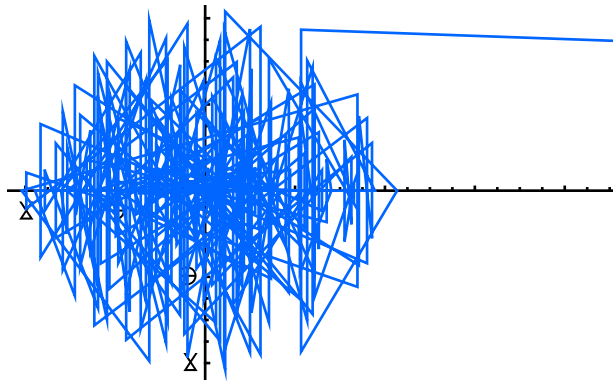
```
f[x_] = x/π;

e = Eigenvalues[m];

b = Table[{Re[e[[x]]], Im[e[[x]]]}, {x, z}];

ListPlot[b, PlotJoined → True, PlotStyle → Hue[.6]];
```
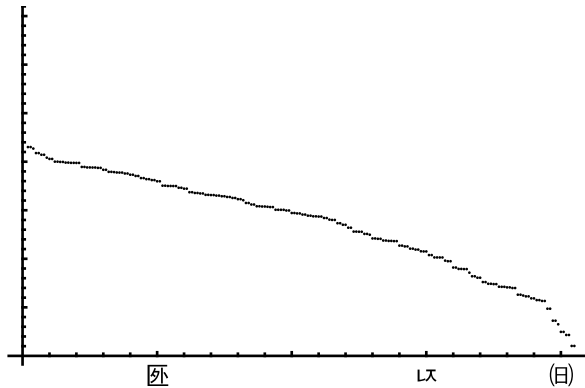


```
ListPlot[Abs[e], PlotStyle → PointSize[0.002]];
```



```
Norm[m, 2]
```

102.967