

Pensieve header: Experiments with making timelines.

```
In[33]:= events = Table[
  {s = RandomReal[30], s + RandomReal[3]^2},
  {64}
]
```

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Out[33]= {{17.6103, 25.3578}, {20.2564, 20.7423}, {4.18153, 5.63755}, {11.286, 19.6109},
{6.01552, 10.042}, {16.257, 16.3233}, {28.8679, 29.2427}, {19.2636, 24.3067},
{10.2592, 10.2756}, {16.728, 21.0529}, {16.6641, 16.6798}, {6.57374, 6.57643},
{3.17697, 9.61208}, {15.055, 18.5196}, {25.2499, 25.6314}, {21.5801, 22.7173},
{12.0974, 12.1955}, {28.0645, 30.8883}, {2.0519, 2.98039}, {19.3723, 22.4077},
{17.9499, 21.3931}, {19.4056, 24.1311}, {5.55727, 10.1278}, {2.88516, 3.18933},
{27.9015, 32.3191}, {18.6257, 21.6483}, {1.21766, 3.14238}, {29.4096, 29.4292},
{20.256, 27.4361}, {7.90103, 10.628}, {24.9398, 26.5668}, {21.3313, 21.7965},
{23.7726, 24.1912}, {28.3898, 28.5219}, {18.3386, 19.0668}, {0.331238, 0.687962},
{28.0499, 28.1637}, {25.1296, 33.8744}, {25.5574, 29.051}, {3.89343, 5.1968},
{2.95914, 6.73766}, {29.7031, 32.1171}, {5.72126, 11.6369}, {9.61505, 11.4043},
{1.71284, 6.54511}, {4.83023, 4.83801}, {18.6176, 26.0845}, {3.32023, 3.32143},
{22.7138, 31.7125}, {17.3035, 23.8388}, {11.818, 13.685}, {26.6912, 31.845},
{1.13981, 1.55175}, {10.5672, 12.3816}, {13.1995, 14.2836}, {28.7171, 29.2755},
{13.8501, 13.8587}, {9.8376, 13.4548}, {20.1988, 28.1567}, {24.7542, 24.7864},
{21.9478, 23.7561}, {28.3539, 28.4642}, {12.1749, 16.67}, {16.2451, 21.3699}}
```

```
In[34]:= TimeLine[ev_List] := Module[{j, k, oc, levels},
  levels = {};
  For[k = 1, k ≤ Length[ev], ++k,
    oc = {};
    For[j = 1, j < k, ++j,
      If[Last[ev[[j]]] > First[ev[[k]]] && First[ev[[j]]] < Last[ev[[k]]],
        AppendTo[oc, levels[[j]]]
      ]
    ];
    For[j = 1, MemberQ[oc, j], ++j];
    AppendTo[levels, j]
  ];
  Print[{Max[levels], levels.({{-1, 1}.#) & /@ ev}]];
  Graphics[{
    Thickness[1 / Max[levels]], CapForm[None],
    Table[
      {
        Hue[RandomReal[]], Opacity[0.5],
        Line[{levels[[{k, k}]], -ev[[k]]} // Thread],
        Black, Opacity[1],
        Text[k, {levels[[k]], Total[-ev[[k]]] / 2}]
      },
      {k, Length[ev]}
    ]
  ]
]
```

```
In[35]:= GraphicsRow[{TimeLine[events],
  TimeLine[SortBy[events, First]], TimeLine[SortBy[events, ({1, -1}.#) &]]}]
```

{13, 938.006}

{13, 795.317}

{13, 796.054}

