



(*Showing how to use manipulate for running a simulation *)
(*Nasser Abbasi Feb 19, 2008 *)


```
Manipulate[


  x = RandomReal[{- (1 - r), (1 - r)}];
  y = RandomReal[{- (1 - r), (1 - r)}];
  g = Dynamic[Disk[{x, y}, r]];
  i = 0;
  simulationTime;
  cdx = dx;
  cdy = dy;
  Dynamic[ If[i < simulationTime, (Pause[t]; i++; g = Disk[{x += cdx, y += cdy}, r];
    If[Abs[x] ≥ 1 - r, cdx = -cdx];
    If[Abs[y] ≥ 1 - r, cdy = -cdy];
    f
  ), f]
],


{{simulationTime, 100, "simulationTime="}, 10,
 5000, 1, AppearanceElements → All, ContinuousAction → False},
{{dx, 0.01, "dx="}, .001, 0.1, .001, AppearanceElements → All, ContinuousAction → False},
{{dy, 0.01, "dy="}, .001, 0.1, .001, AppearanceElements → All, ContinuousAction → False},
{{r, 0.1, "r="}, .05, 1, .01, AppearanceElements → All, ContinuousAction → False},
{{t, 0.01, "pause time="}, .0001, 1,
 .001, AppearanceElements → All, ContinuousAction → False},
{i, None},
{x, None},
{y, None},
{g, None},
{cdx, None},
{cdy, None},
Initialization →
{
  f := Graphics[g, ImageMargins → 0, Frame → True,
    ImagePadding → 1, PlotRangeClipping → False, PlotRange → 1];
}
]
```

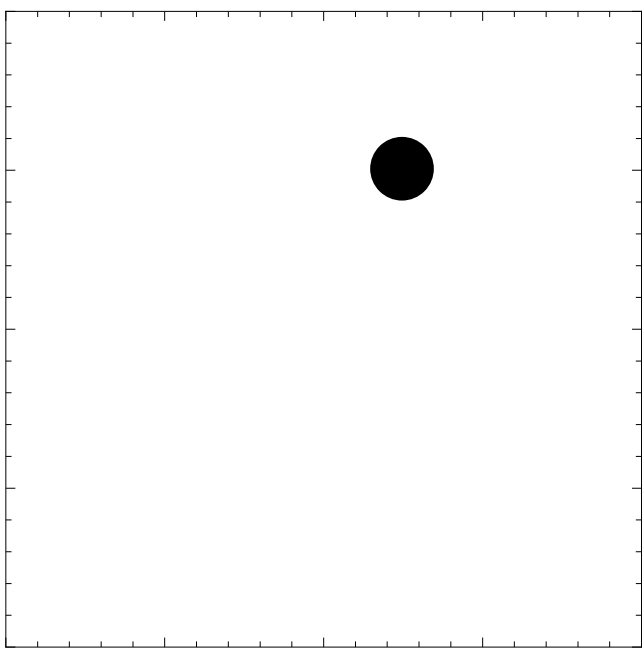
simulationTime=  762

dx=  0.01

dy=  0.01

r=  0.1

pause time=  0.0661



Out[17]=