

Diffusion + Logistic growth in two-dimensional space

```
SetDirectory[  
  "/Users/takasu/Library/Developer/Xcode/DerivedData/reaction_diffusion-  
  hheuerqvwvxirkgnaxhdibufvvic/Build/Products/Debug/" ]  
/Users/takasu/Library/Developer/Xcode/DerivedData/reaction_diffusion-  
  hheuerqvwvxirkgnaxhdibufvvic/Build/Products/Debug
```

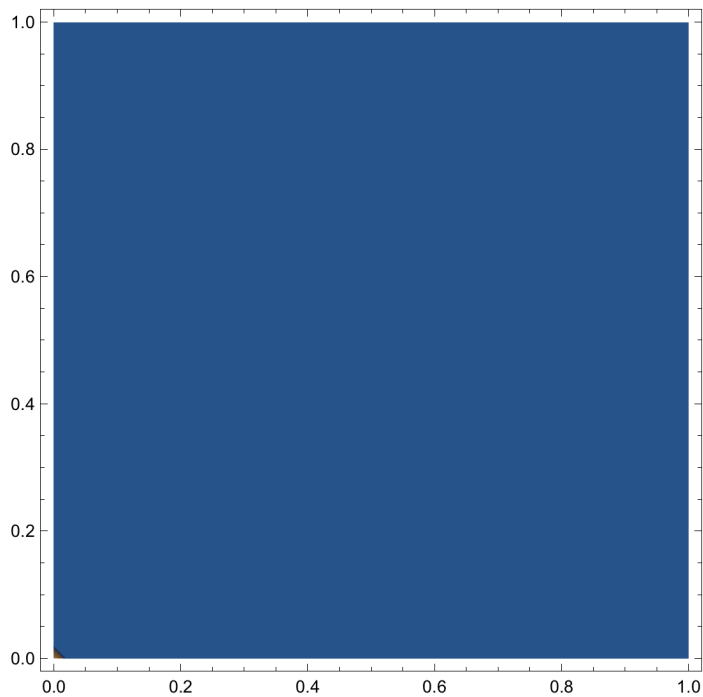
Initial distribution I: A small amount of substance is introduced at a corner

```
size = 51; (* This should be the size of data written to the file *)  
data = ReadList["RD-data-2dim-init1", {Real, Real, Real}];  
data = Partition[data, size * size];
```

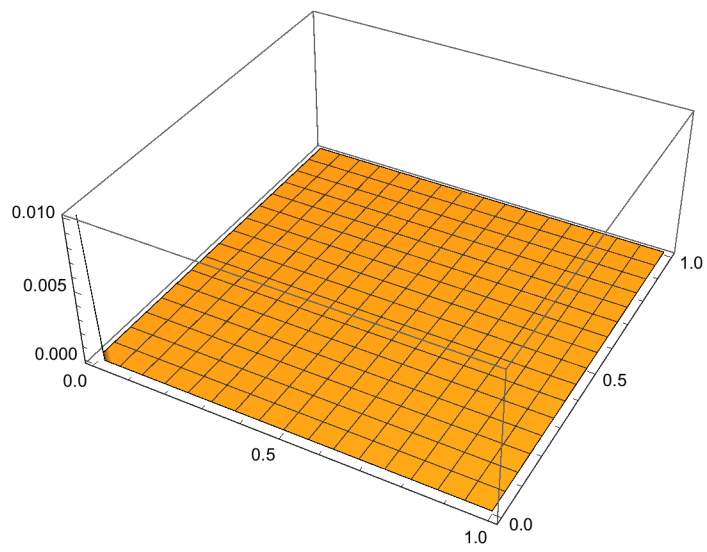
```
Length[data]
```

```
100
```

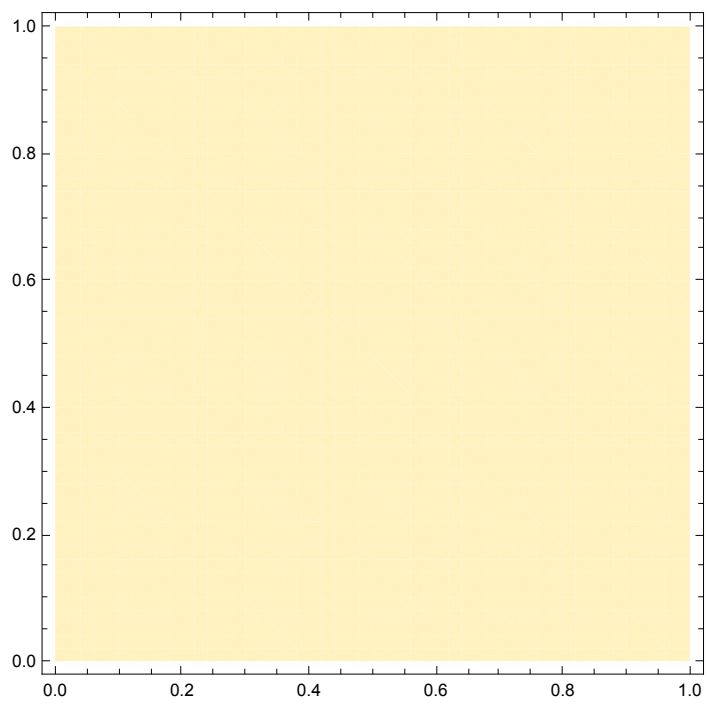
```
ListContourPlot[data[[1]], PlotRange -> All]
```



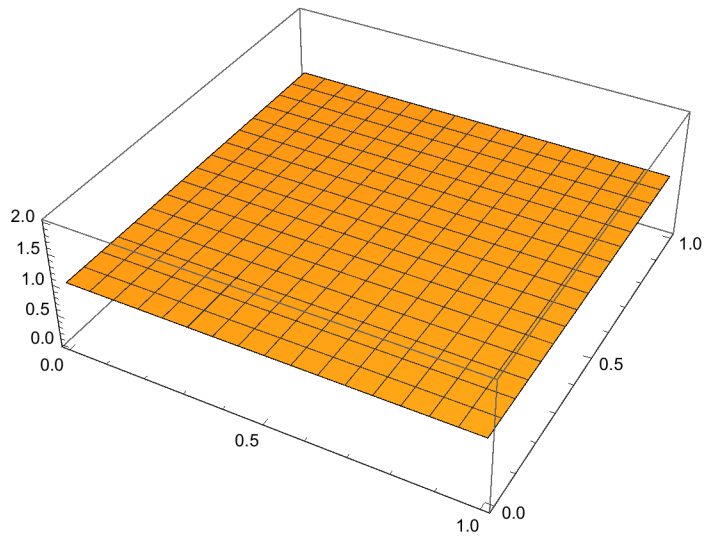
```
ListPlot3D[data[[1]], PlotRange -> All]
```



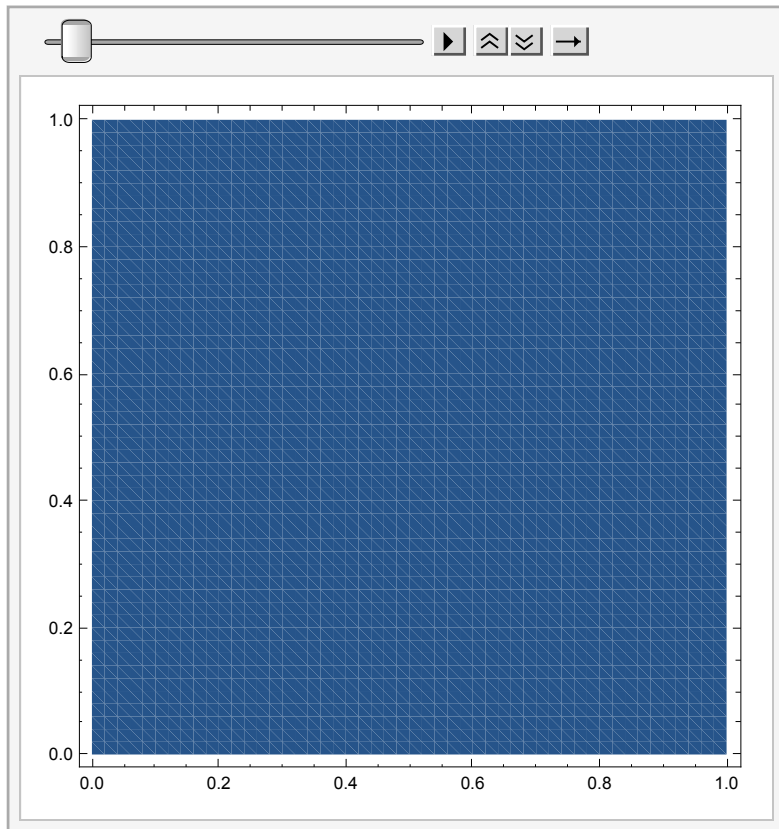
```
ListContourPlot[Last[data]]
```



```
ListPlot3D[Last[data], PlotRange -> All, BoxRatios -> {3, 3, 1}, Axes -> True]
```



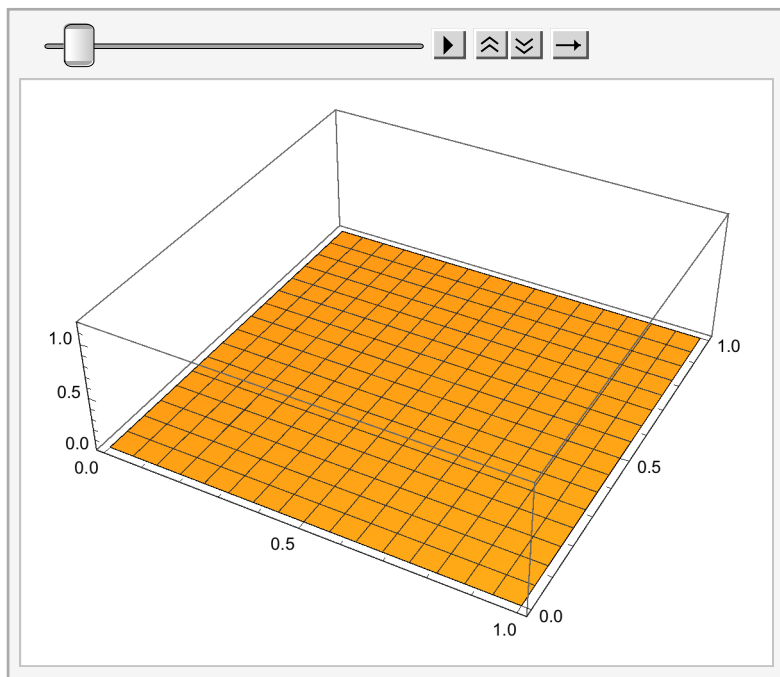
```
glist = {};
Do[
  g = ListContourPlot[ data[[i]] ,
    PlotRange -> {0, 1.2}, Axes -> True, BoxRatios -> {3, 3, 1}];
  AppendTo[glist, g];
  PrintTemporary[i], {i, 1, Length[data], 1}
]
ListAnimate[glist]
```



```

glist = {};
Do[
  g = ListPlot3D[ data[[i]] ,
    PlotRange -> {0, 1.2}, Axes -> True, BoxRatios -> {3, 3, 1}];
  AppendTo[glist, g];
  PrintTemporary[i], {i, 1, Length[data], 1}
]
ListAnimate[glist]

```



```
glist[[30]]
```

Initial distribution 2: A small amount of substance is introduced on the peripheral line

```

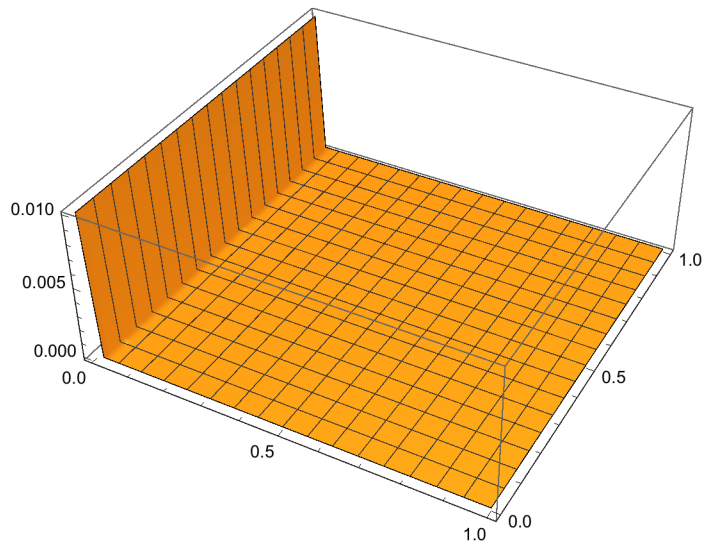
size = 51; (* This should be the size of data written to the file *)
data = ReadList["RD-data-2dim-init2", {Real, Real, Real}];
data = Partition[data, size * size];

```

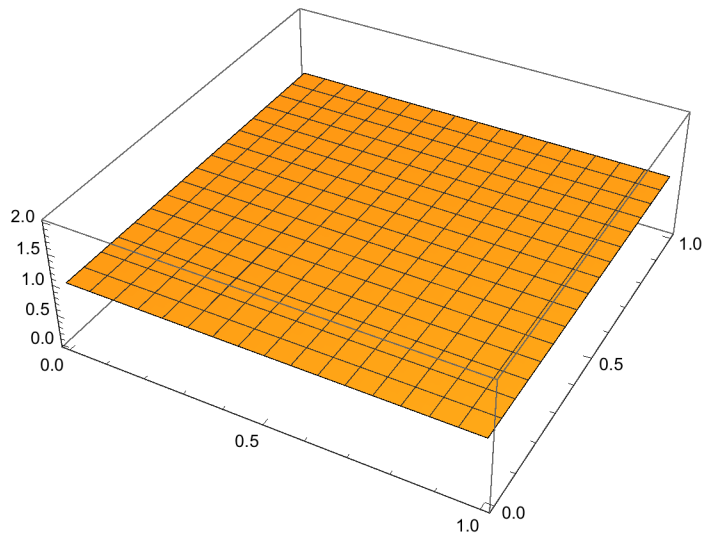
```
Length[data]
```

```
100
```

```
ListPlot3D[data[[1]], PlotRange -> All]
```



```
ListPlot3D[Last[data], PlotRange -> All, BoxRatios -> {3, 3, 1}, Axes -> True]
```



```
glist = {};
Do[
  g = ListPlot3D[ data[[i]] ,
    PlotRange -> {0, 1.2}, Axes -> True, BoxRatios -> {3, 3, 1}];
  AppendTo[glist, g];
  PrintTemporary[i], {i, 1, Length[data], 10}
]
```

ListAnimate[glist]

