

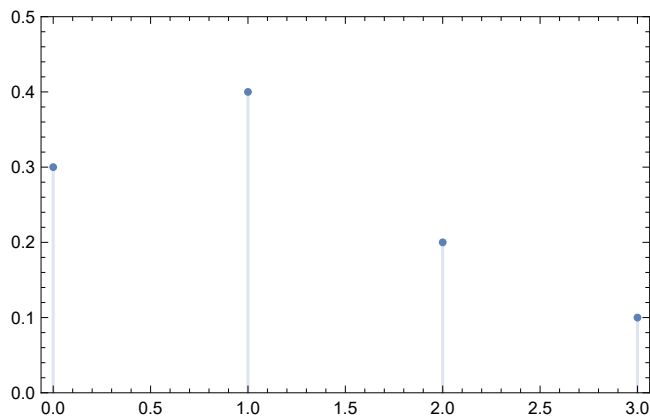
```
In[ ]:= emp = EmpiricalDistribution[{0.3, 0.4, 0.2, 0.1} → {0, 1, 2, 3}]
Out[ ]:=
```

DataDistribution[  Type: Empirical
Data points: 4]

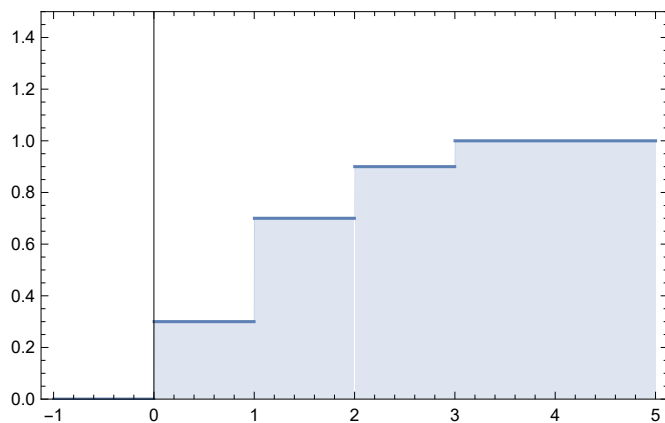
```
In[ ]:= PDF[emp, x]
Out[ ]:= 0.3 Boole[0 == x] + 0.4 Boole[1 == x] + 0.2 Boole[2 == x] + 0.1 Boole[3 == x]
```

```
In[ ]:= CDF[emp, x]
Out[ ]:= 0.3 Boole[0 ≤ x] + 0.4 Boole[1 ≤ x] + 0.2 Boole[2 ≤ x] + 0.1 Boole[3 ≤ x]
```

```
In[ ]:= DiscretePlot[PDF[emp][x], {x, 0, 3}, Frame → True, PlotRange → {0, 0.5}]
Out[ ]:=
```

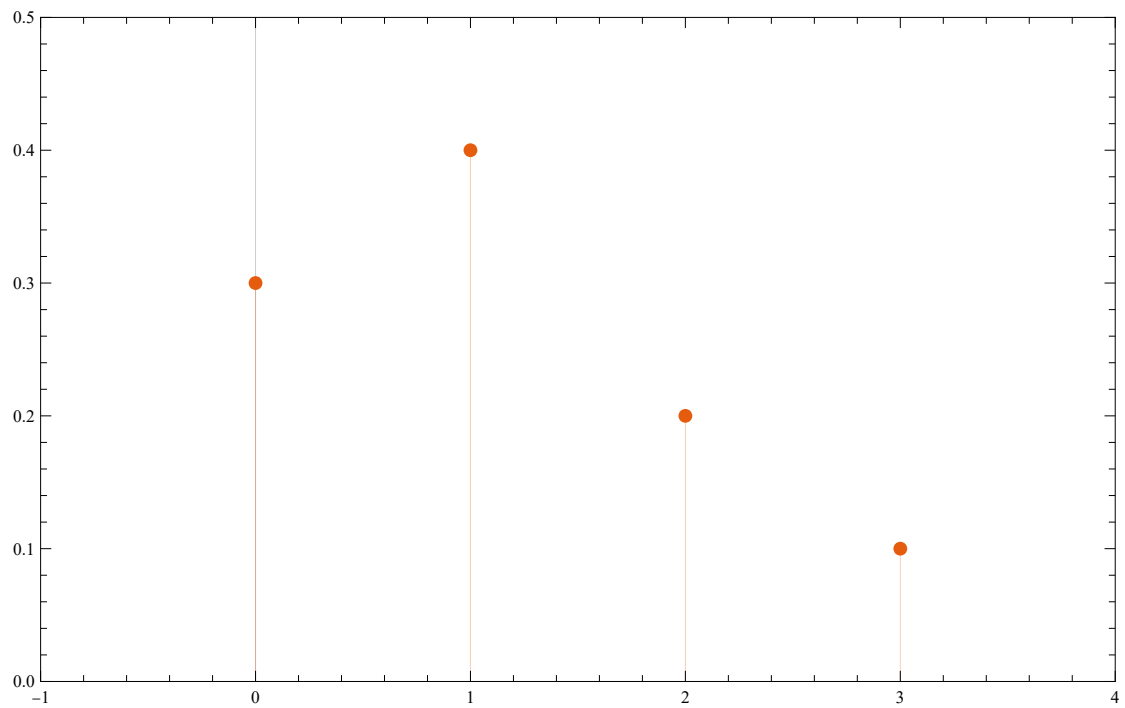


```
In[ ]:= Plot[CDF[emp][x], {x, -1, 5}, Frame → True, PlotRange → {0, 1.5}, Filling → Bottom]
Out[ ]:=
```



```
In[ ]:= ListPlot[{{0, 0.3}, {1, 0.4}, {2, 0.2}, {3, 0.1}}, Filling -> Axis,  
PlotTheme -> "Scientific", ImageSize -> Large, PlotRange -> {{-1, 4}, {0, 0.5}}]
```

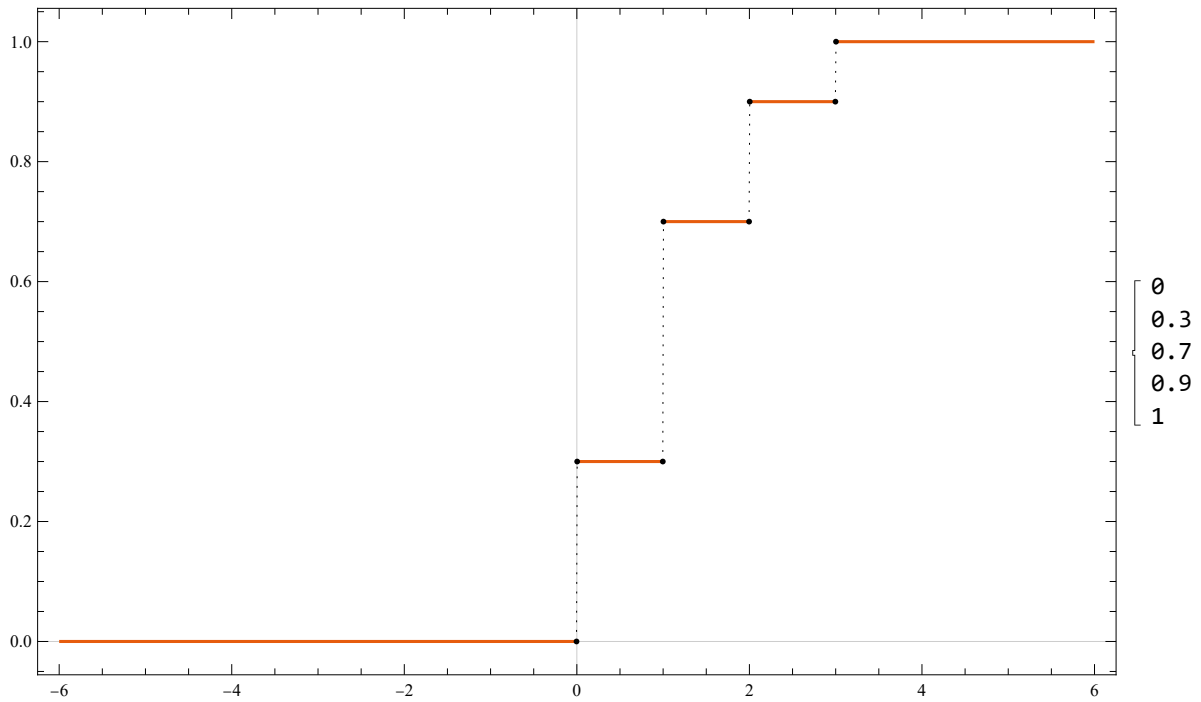
Out[]=



```
In[ ]:= f[x] := Piecewise[{{y = 0, x < 0}, {y = 0.3, 0 ≤ x < 1},
  {y = 0.7, 1 ≤ x < 2}, {y = 0.9, 2 ≤ x < 3}, {y = 1, x ≥ 3}}]
```

```
In[ ]:= Legended[Plot[Evaluate[f[x]], {x, -6, 6}, PlotTheme → "Scientific",
  ImageSize → Large, ExclusionsStyle → {Dotted, Black}], f[x]]
```


Out[]:=



```
In[ ]:= Evaluate[f[x]]
```

```
Out[ ]=
```

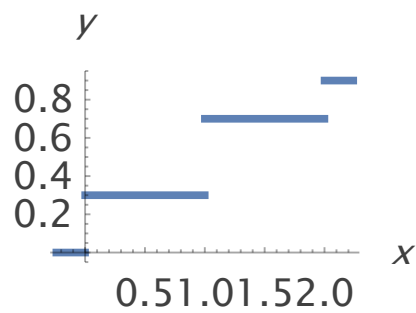
$$\left[\begin{array}{ll} 0 & x < 0 \\ 0.3 & 0 \leq x < 1 \\ 0.7 & 1 \leq x < 2 \\ 0.9 & 2 \leq x < 3 \\ 1 & x \geq 3 \\ 0 & \text{True} \end{array} \right]$$

In[*]:=  **Piecewise**[[{0, x < 0}, {0.3, 0 <= x < 1}, {0.7, 1 <= x < 2}, {0.9, 2 <= x < 3}, {1, x >= 3}]]

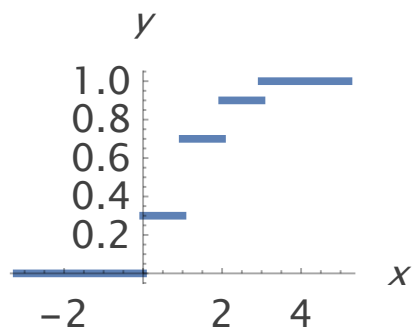
Input:

$$\begin{cases} 0 & x < 0 \\ 0.3 & 0 \leq x < 1 \\ 0.7 & 1 \leq x < 2 \\ 0.9 & 2 \leq x < 3 \\ 1 & x \geq 3 \end{cases}$$

Plots:



min  + max  +



min  + max  +

Alternate form:



$$\begin{cases} 0.3 & 0 \leq x < 1 \\ 0.7 & 1 \leq x < 2 \\ 0.9 & 2 \leq x < 3 \\ 1 & x \geq 3 \end{cases}$$

Alternate form assuming x is positive:



$$\begin{cases} 0.3 & x < 1 \\ 0.7 & 1 \leq x < 2 \\ 0.9 & 2 \leq x < 3 \\ 1 & \text{(otherwise)} \end{cases}$$

WolframAlpha