

In[1]:=

In[2]:= **disp := Export["t.ps", #, "EPS"] &**

In[3]:=

In[4]:=

In[5]:= **list = Sort[Table[Random[], {20}]];**

In[6]:=

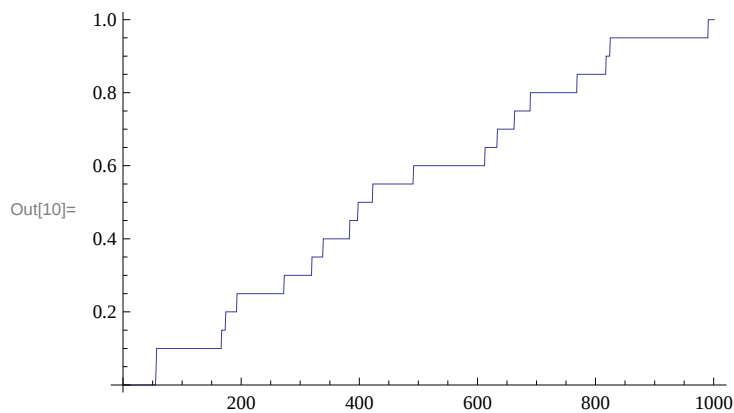
In[7]:= **Clear[cum]; cum[x_, list_] := Length[Select[list, (# ≤ x &)]] / Length[list]**

In[8]:= **cum[.5, list] // N**

Out[8]= 0.6

In[9]:= **cumTab = Table[cum[x, list], {x, 0, 1, .001}];**

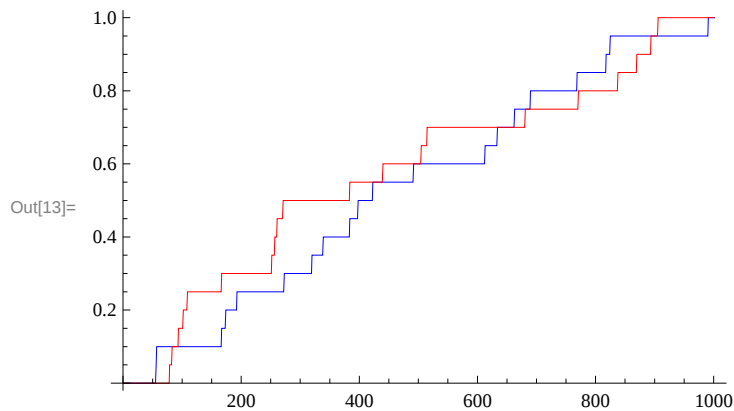
In[10]:= **ListPlot[cumTab, PlotJoined → True]**



In[11]:= **list2 = Sort[Table[Random[], {20}]];**

In[12]:= **cumTab2 = Table[cum[x, list2], {x, 0, 1, .001}];**

In[13]:= **Show[ListPlot[cumTab, PlotJoined → True, PlotStyle → Blue], ListPlot[cumTab2, PlotJoined → True, PlotStyle → Red]]**



In[14]:=

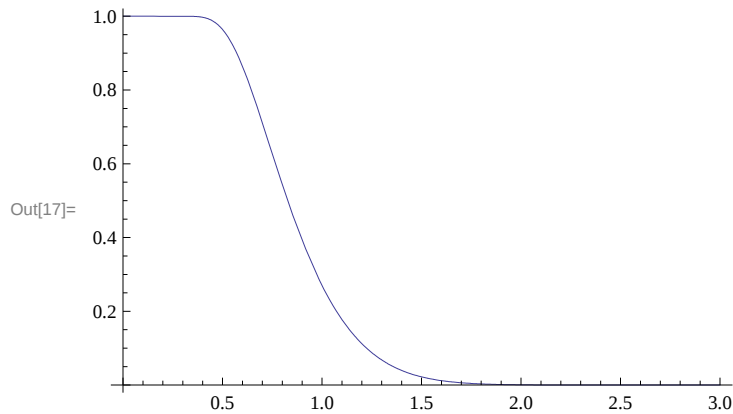
In[15]:= **dmax = Max[Abs[cumTab - cumTab2]]**

Out[15]= $\frac{1}{4}$

In[16]:= **Qks[lam_] = 2 Sum[(-1)^(j - 1) Exp[-2 j^2 lam^2], {j, 1, Infinity}]**

Out[16]= $1 - \text{EllipticTheta}[4, 0, e^{-2 \text{lam}^2}]$

In[17]:= **Plot[Qks[lam], {lam, .001, 3}]**



In[18]:= **test[dmax_, list_] := Qks[Sqrt[Length[list]/2] dmax]**

In[19]:= **test[dmax, list] // N**

Out[19]= 0.55956

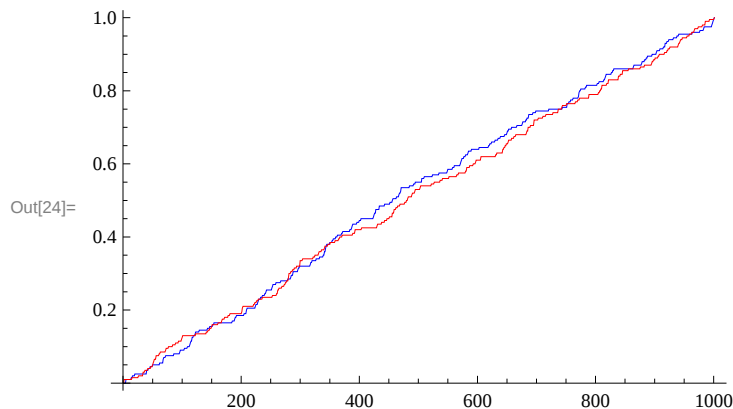
In[20]:= **list = Table[Random[], {200}];**

In[21]:= **list2 = Table[Random[], {200}];**

In[22]:= **cumTab = Table[cum[x, list], {x, 0, 1, .001}];**

In[23]:= **cumTab2 = Table[cum[x, list2], {x, 0, 1, .001}];**

In[24]:= **Show[ListPlot[cumTab, PlotJoined -> True, PlotStyle -> Blue], ListPlot[cumTab2, PlotJoined -> True, PlotStyle -> Red]]**



In[25]:= **dmax = Max[Abs[cumTab - cumTab2]]**

Out[25]= $\frac{1}{20}$

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In[26]:= test[dmax, list] // N
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Out[26]= 0.963945
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In[27]:=
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In[28]:=
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In[29]:=
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