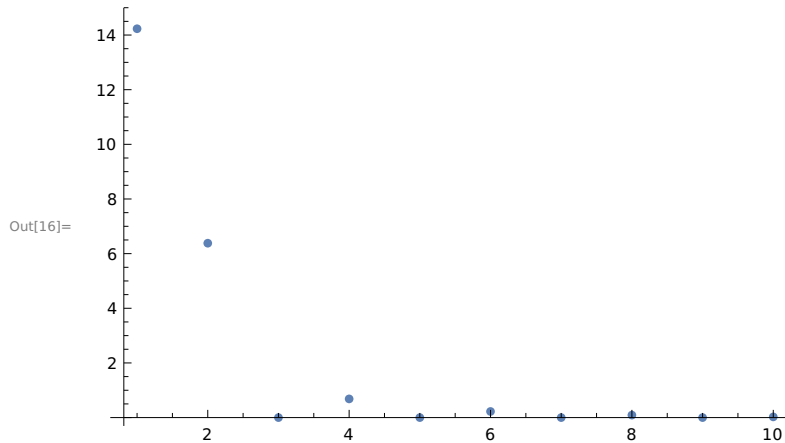


(\* srovnani DFT a DCT \*)

In[9]:= **ct = FourierDCT[{0, 1, 2, 3, 4, 5, 6, 7, 8, 9}]**

Out[9]= {14.2302, -6.38153,  $5.3424 \times 10^{-16}$ , -0.68353,  $4.54452 \times 10^{-16}$ ,  
-0.223607,  $3.30179 \times 10^{-16}$ , -0.090418,  $1.73585 \times 10^{-16}$ , -0.0253549}

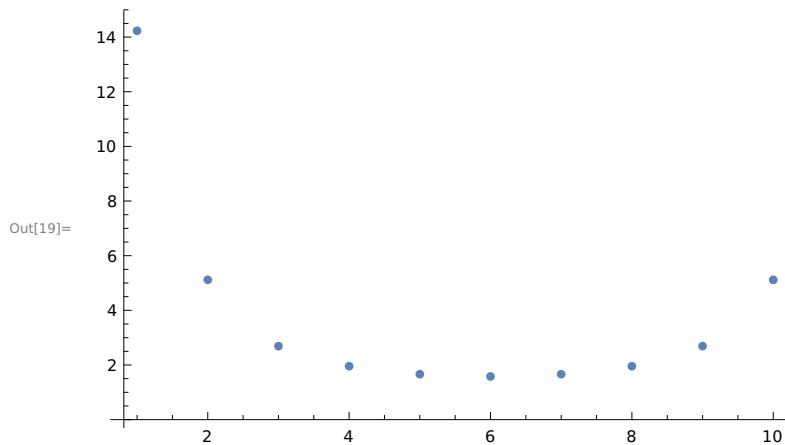
In[16]:= **ListPlot[Abs[ct], PlotRange -> All]**



In[17]:= **ft = Fourier[{0, 1, 2, 3, 4, 5, 6, 7, 8, 9}]**

Out[17]= {14.2302 + 0. *i*, -1.58114 - 4.86624 *i*, -1.58114 - 2.17625 *i*,  
-1.58114 - 1.14876 *i*, -1.58114 - 0.513743 *i*, -1.58114 + 0. *i*, -1.58114 + 0.513743 *i*,  
-1.58114 + 1.14876 *i*, -1.58114 + 2.17625 *i*, -1.58114 + 4.86624 *i*}

In[19]:= **ListPlot[Abs[ft], PlotRange -> All]**

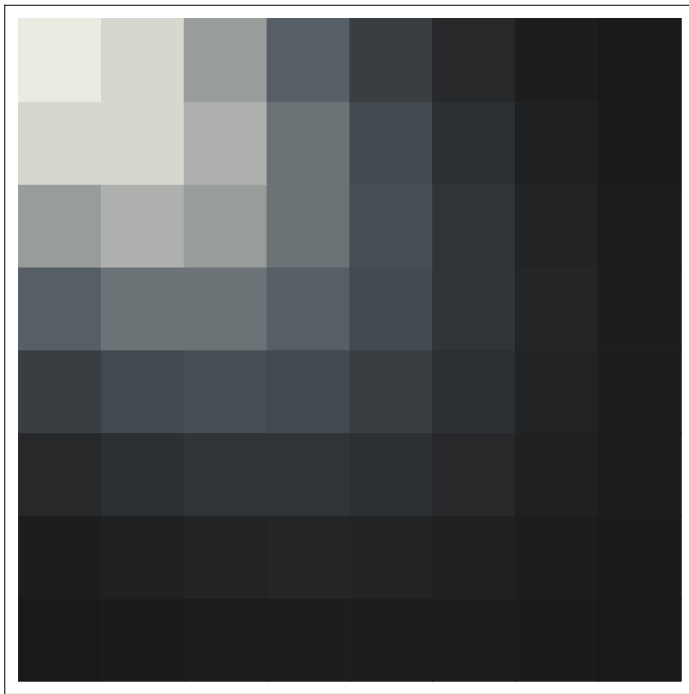


In[165]:= **mat = Table[Floor[256 Exp[-(x^2/2 + y^2/2 - x y/2)/5]], {x, 0, 7}, {y, 0, 7}];**

(\* 2D \*)

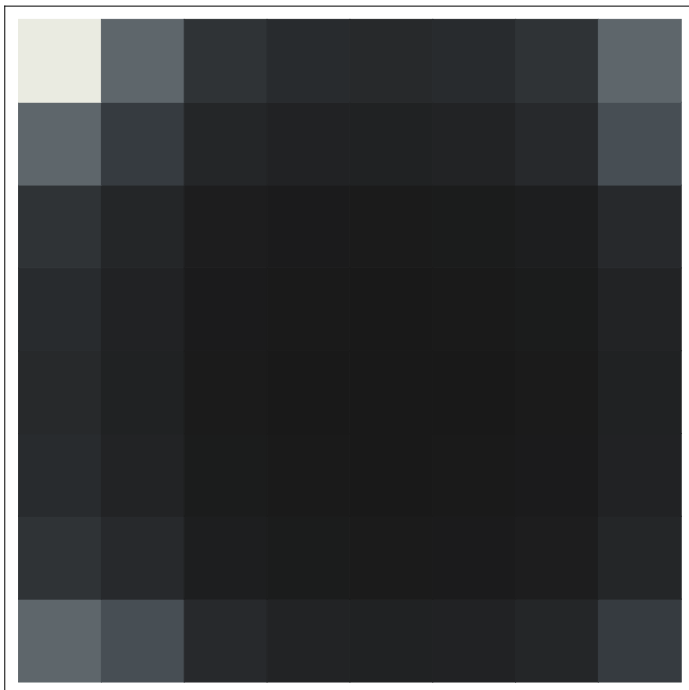
```
In[175]:= ArrayPlot[mat, PlotRange -> All, ColorFunction -> "GrayTones "]
```

Out[175]=



```
In[180]:= matft = Fourier[mat];  
ArrayPlot[Abs[matft], PlotRange -> All, ColorFunction -> "GrayTones "]
```

Out[180]=





```
In[229]:= matcf = FourierDCT[mat];  
ArrayPlot[Abs[matcf], PlotRange -> All, ColorFunction -> "GrayTones"]
```

Out[229]=



```
In[231]:= matcf2 = 5 Round[matcf / 5];  
ArrayPlot[Abs[matcf2], PlotRange -> All, ColorFunction -> "GrayTones"]
```

Out[231]=



(\* ZOOM ... \*)

```
In[232]:= MatrixPlot[Abs[matcf2], PlotRange -> All, ColorFunction -> "GrayTones"]
```

