```
In[16]:= SetDirectory["c:/Documents and Settings/mk/デスクトップ/2009-yamada-prog"]

Out[16]= c:\Documents and Settings\mk\デスクトップ\2009-yamada-prog

In[17]:= sounddata = Import["guitar1.wav"];

In[18]:= wavFourier[snd_, start_] :=
          Abs[Fourier[Take[snd[[1, 1, 1]], {start, start + snd[[1, 2]] - 1}]]]

In[19]:= aft = wavFourier[sounddata, 62 800];

In[20]:= plotSpectrum[spec_] := ListPlot[spec, PlotJoined → True, PlotRange -> {{1, 1600}, All}]

In[21]:= g1 = plotSpectrum[aft]
```
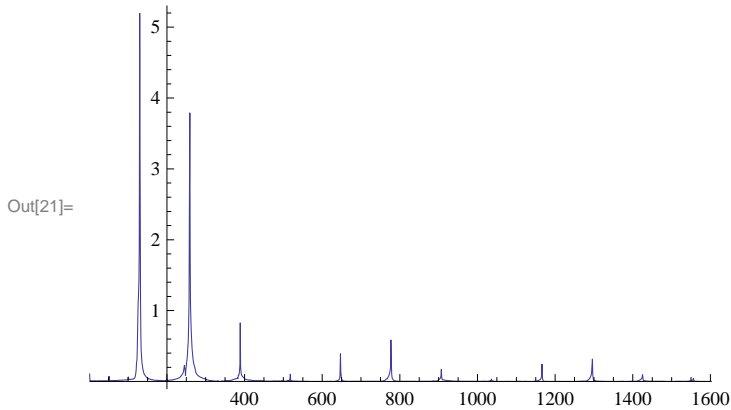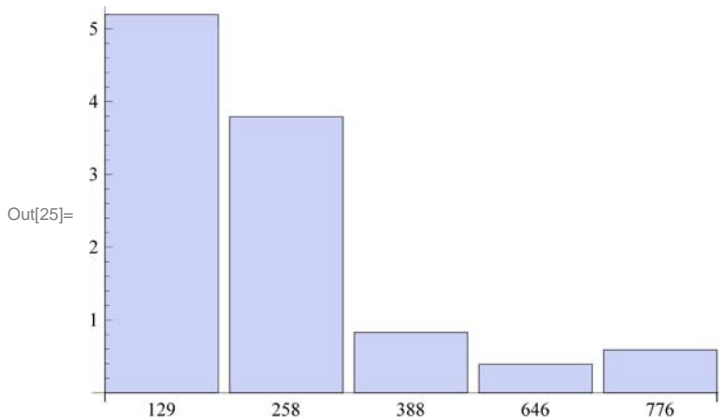


```
In[22]:= peakPositions[spec_, n_] := Module[{pp, pps, halfspec, i, j},
          pps = {}; halfspec = Take[spec, Floor[Length[spec] / 2]];
          For[i = 1, i ≤ n, i++,
           pp = Ordering[halfspec, -1][[1]];
           pps = Append[pps, pp];
           For[j = -6, j ≤ 6, j++, halfspec[[pp + j]] = 0]];
          pps]

In[23]:= pps = peakPositions[aft, 5]

Out[23]= {130, 259, 389, 777, 647}

In[24]:= peakBar[spec_, pps_] := BarChart[spec[[Sort[pps]]], ChartLabels → Sort[pps] - 1]

In[25]:= g2 = peakBar[aft, pps]
```



```
In[26]:= For[i = 40 000, i ≤ 80 000, i += 2000,
          Print[peakPositions[wavFourier[Import["guitar1.wav"], i], 5] - 1]]
```

```
{129, 258, 388, 776, 265}
{129, 258, 388, 122, 776}
{129, 258, 388, 776, 121}
{129, 258, 388, 776, 265}
{129, 258, 388, 122, 776}
{129, 258, 388, 776, 121}
{129, 258, 388, 776, 265}
{129, 258, 388, 776, 122}
{129, 258, 388, 776, 121}
{129, 258, 388, 776, 122}
{129, 258, 388, 776, 122}
{129, 258, 388, 776, 646}
{129, 258, 388, 776, 122}
{129, 258, 388, 776, 122}
{129, 258, 388, 776, 122}
{129, 258, 388, 776, 646}
{129, 258, 388, 776, 646}
{129, 258, 388, 646, 776}
{129, 258, 388, 646, 776}
{129, 258, 388, 646, 776}
{129, 258, 388, 646, 136}
```