```
(* 3. Povprecja
 Primoz Jeras *)
```

In[14]:=
```
agxx = ReadList["Documents\FMF\ROvF\Tema3\Agxx.dat", Real];
ozadje = ReadList["Documents\FMF\ROvF\Tema3\Ozadje.dat", {Real, Real}];
interval = ReadList["Documents\FMF\ROvF\Tema3\Interval.dat", Real];

Mean[interval]
(*ypov, povprecje*)
StandardDeviation[interval]
(*sigmay, standardna deviacija*)
```

Out[29]= 311.085

Out[30]= 314.999

In[316]:=
```
Mean[agxx]
(*ypov, povprecje*)
StandardDeviation[agxx]
(*sigmay, standardna deviacija*)
For[i = 1; muy = {}, i < Count[agxx, _], i++,
  AppendTo[muy, (agxx[[i]] - Mean[agxx])^3]];
Total[muy] / (Count[agxx, _] StandardDeviation[agxx]^3)
(*muy,posevnost*)
```

Out[316]= 17.403

Out[317]= 4.17421

Out[319]= 0.266447

In[312]:=
```
Mean[#[[1]] & /@ ozadje]
(*ypov, povprecje*)
StandardDeviation[#[[1]] & /@ ozadje]
(*sigmay, standardna deviacija*)
For[i = 1; muy = {}, i < Count[ozadje, _], i++,
  AppendTo[muy, (ozadje [[i, 1]] - Mean[(#1[[1]] & ) /@ ozadje])^3]];
Total[muy] / (Count[ozadje, _] StandardDeviation[(#1[[1]] & ) /@ ozadje]^3)
(*muy,posevnost*)
```

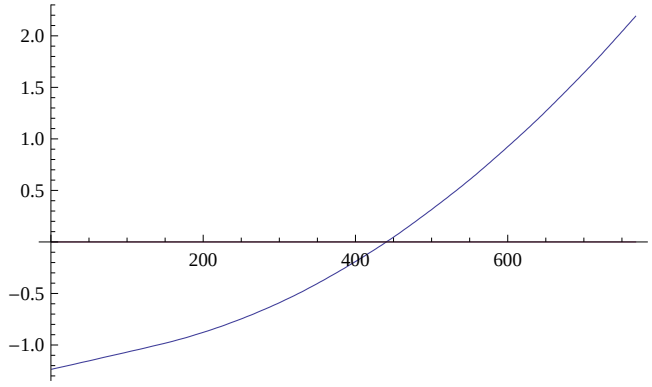
Out[312]= 27 052.3

Out[313]= 294.42

Out[315]= 0.576078

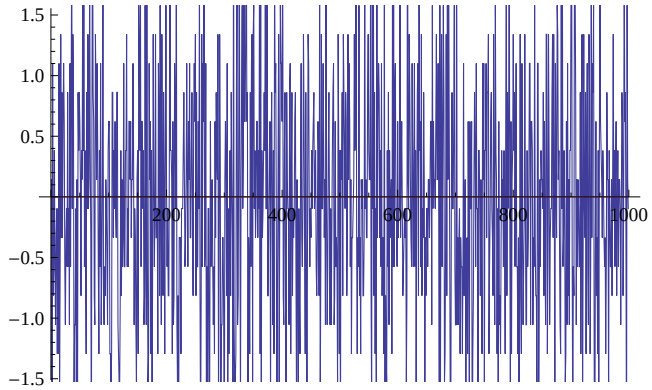
In[286]:=
```
For[i = 1; u = {}, i < Count[ozadje, _], i++,
   AppendTo[u, (ozadje[[i,1]] - Mean[(#1[[1]] & ) /@ ozadje])/
     StandardDeviation[(#1[[1]] & ) /@ ozadje]]];
(*u=(y   ypov)/sigmay*)
For[i = 1; Gu = {}, i < Count[ozadje, _], i++,
   AppendTo[Gu, 1/(E^((u[[i]] - Mean[(#1[[1]] & ) /@ ozadje])^2/
        (2*StandardDeviation[(#1[[1]] & ) /@ ozadje]^2))*
      (Sqrt[2*Pi]*StandardDeviation[(#1[[1]] & ) /@ ozadje]))]];
 (*Gaussova porazdelitev po formuli*)
ListPlot[{u,Gu}, Joined->True]
```

Out[288]=




```
For[i = 1; u = {}, i < Count[agxx, _], i++,
  AppendTo[u, (agxx[[i]] - Mean[agxx]) /
   StandardDeviation[agxx]]];
(*u=(y   ypov)/sigmay*)
For[i = 1; Gu = {}, i < Count[agxx, _], i++,
  AppendTo[Gu, 1 / (E^((u[[i]] - Mean[agxx])^2 /
     (2 * StandardDeviation[agxx]^2)) *
    (Sqrt[2 * Pi] * StandardDeviation[agxx]))]];
(*Gaussova porazdelitev po formuli*)
ListPlot[{u, Gu}, Joined → True]
```

Out[200]=



```
sin = Array[Sin, 100] // N;
Mean[sin]
(*ypov, povprecje*)
StandardDeviation[sin]
(*sigmay, standardna deviacija*)
Mean[Abs[-Cos[sin]]]
(*sigmay, standardna deviacija po -Cos[x],
ki je integral sinusne funkcije - ocena se ujema z okoli 5% napako*)
```

Out[245]= −0.00127171

Out[246]= 0.712573

Out[247]= 0.763936