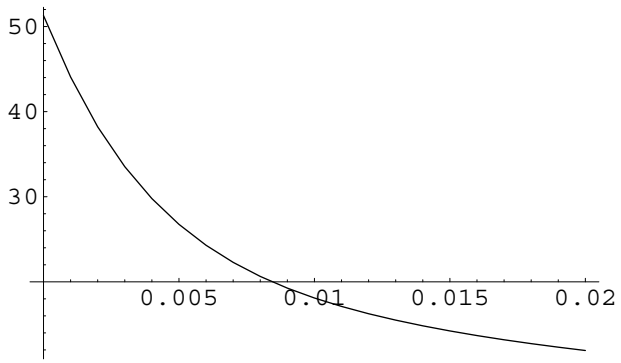
```
In[1]:= d = ReadList["d:\\temp\\magn2-lua\\magn2-coenergy.txt", Number, RecordLists -> True] .
          {{0.01, 0}, {0, 1}}

Out[1]= {{0.02, 11.93}, {0.019, 12.3215}, {0.018, 12.7384}, {0.017, 13.1912},
         {0.016, 13.6865}, {0.015, 14.2306}, {0.014, 14.8308}, {0.013, 15.5002},
         {0.012, 16.2506}, {0.011, 17.1118}, {0.01, 18.0999}, {0.009, 19.2622},
         {0.008, 20.6371}, {0.007, 22.2887}, {0.006, 24.2971}, {0.005, 26.755},
         {0.004, 29.782}, {0.003, 33.5315}, {0.002, 38.2122}, {0.001, 44.0695}, {0., 51.2814}}
```

Plot the results from femm:

```
In[2]:= ListPlot[d, PlotJoined -> True]
```




```
Out[2]= - Graphics -
```

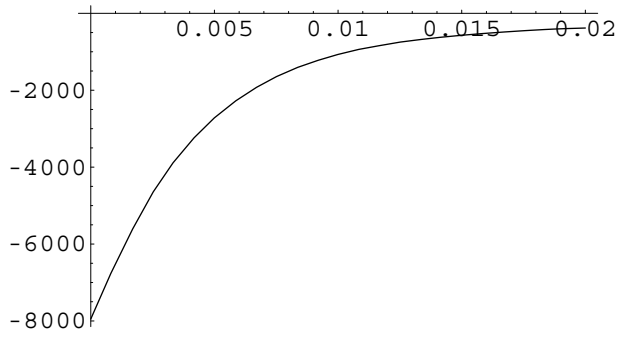
Get force by interpolating between the datapoints and taking the derivative of the interpolation

```
In[3]:= f = D[Interpolation[d][x], x]

Out[3]= InterpolatingFunction[{{0., 0.02}}, <>][x]
```

Plot the force on the plunger versus displacement

```
In[4]:= Plot[f, {x, 0, 0.02}]
```




```
Out[4]= - Graphics -
```

Display a table of force in Newtons versus displacement in cm:

```
In[5]:= MatrixForm[Table[{100 * X, f /. x -> X}, {X, 0, 0.02, 0.001}]]
```

Out[5]//MatrixForm=

0	-7948.7
0.1	-6504.86
0.2	-5239.28
0.3	-4174.28
0.4	-3353.43
0.5	-2716.84
0.6	-2213.27
0.7	-1816.64
0.8	-1499.92
0.9	-1257.92
1.	-1068.75
1.1	-916.799
1.2	-803.124
1.3	-704.9
1.4	-632.673
1.5	-570.012
1.6	-518.443
1.7	-473.029
1.8	-433.786
1.9	-402.439
2.	-382.269