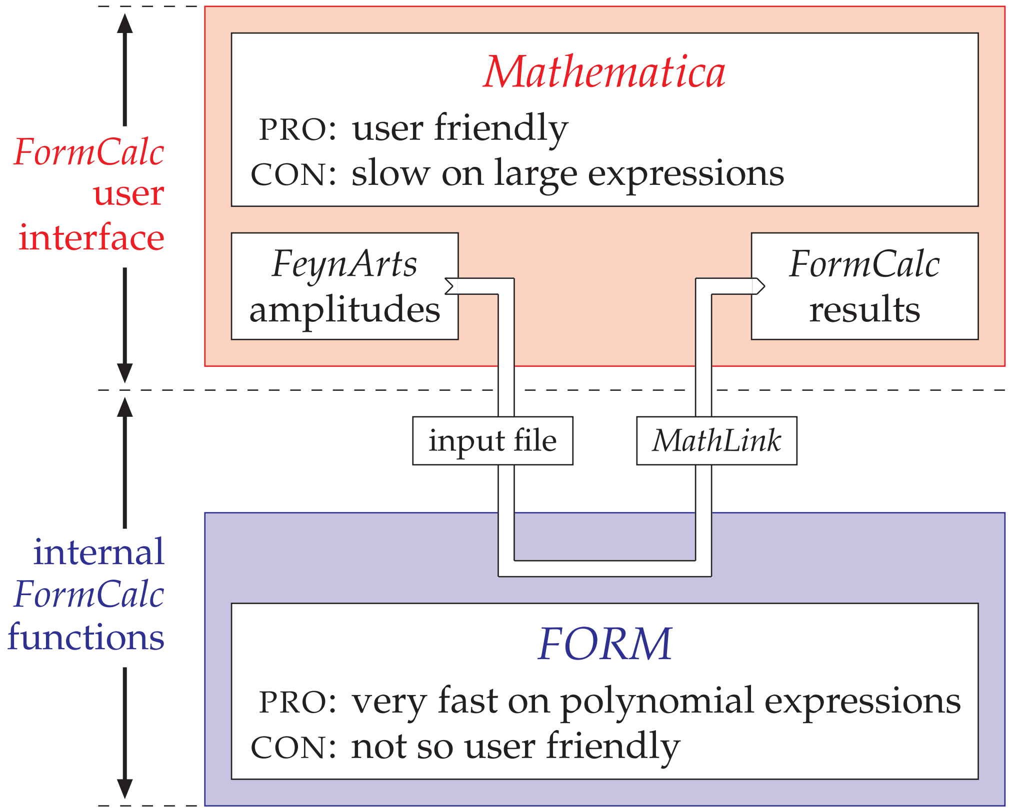
Thomas Hahn: Automatic Loop Calculations in the SM and MSSM with FeynArts, FormCalc, and LoopTools.
Talk given at Wolfram Research, Inc., September 2000.

FormCalc



EXAMPLE: Calculating the Higgs self-energy

```
In[1]:= << FormCalc`

FormCalc 2
by Thomas Hahn
last revision: 6 Mar 00

In[2]:= OneLoop[<< HiggsSelfEnergy.amp]
preparing FORM code in t25886.frm
I2 I4 I5 I1 I2 I1 I3
running FORM...  ok

        -3 Alfa Pair1 A0[MW2]
Out[2]= --------------------- +
                2 Pi

  3 Alfa Pair1 B00[0, MW2, MW2]
  ----------------------------- +
               Pi

   Alfa Pair1 A0[MLE2[Gen1]]
  (------------------------- +
              Pi

   Alfa Pair1 A0[MQD2[Gen1]]
   ------------------------- +
             3 Pi

   4 Alfa Pair1 A0[MQU2[Gen1]]
   --------------------------- -
              3 Pi

   2 Alfa Pair1 B00[0, MLE2[Gen1], MLE2[Gen1]]
   ------------------------------------------- -
                       Pi

   2 Alfa Pair1 B00[0, MQD2[Gen1], MQD2[Gen1]]
   ------------------------------------------- -
                      3 Pi

   8 Alfa Pair1 B00[0, MQU2[Gen1], MQU2[Gen1]]
   -------------------------------------------) *
                      3 Pi

   SumOver[Gen1, 3]
```