Exercises

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1. See list of programs at nce.ads.uga.edu/~ignacy/newprograms.html

2. Download the documentation on program **blupf90**.

3. Create a directory. Download programs from location as shown on the board. Subdirectory *bin* will contain binaries while subdirectory *examples* will sample parameter files + data sets.

4. Open an MS-DOS shell. Move to subdirectory bin. Type:
>   **setf90**
This sets access to all programs.

5. Examine parameter files in the first Appendices of the manual for **blupf90**. Many of them are in directory examples. Possibly run program **blupf90**.

6. Examine file *exmr99s1* and associated files. This parameter file implements a model:
>   y=h+a+p+e
 for one trait; the data file contains 14 traits.

7. Compute estimates of variance components with exmr99s1 with:
>   **remlf90** (accelerated EM)
>   **airemlf90**
>   **gibbs1f90**
In the last case, the burn in is 100, every sample is stored, and the total number of samples is 1000; in practice, more samples would be needed.

8. Examine estimates from **gibbs1f90** using **postgibbsf90**

9. Repeat 7-8 for exmr99s - a data set for 3 traits

10. Possibly extend exmr99s for 5 traits; all starting values can be **J**+99**I**

Program **gen_thr** to generates linear and categorical data for a model with one fixed and one sire effect.

11. Simulate the data using the following parameters:
  2 thresholds (3 categories), 10 levels of fixed effect, 100 sires, 2000 records, var(e)=100, var(sire)=10, thresholds 1 = 0, threshold 2 = 8.

12. Prepare a parameter file and use **thrgibbs1f90** to analyze.

13. Use **postgibbsf90** for sample analysis.

14. Possibly, repeat 11-13 using other parameters.