Microprocessor Based Systems. Exam of September 13, 2010.

A book on arithmetic is in preparation. The book requires that an appendix with the complete list of prime numbers up to 2^11 is prepared for later inclusion in the volume.

It is asked to write an assembly 8086 program to compute and fill two arrays, one named PRIME and the other named NON_PRIME, with all prime and non-prime numbers smaller than or equal to 2^11, respectively. Please note that numbers have to be computed and that it is not possible to refer to any external database of precomputed results.

The final program must print all contents of the two arrays. It not is required to implement the print procedure during the class exam, but it has to be developed as a part of the home self-correction phase.

Please use carbon paper and retain one copy for home implementation and debug. Please provide in your classroom submitted version several explanatory and significant comments. At time of oral exam, it is mandatory to present an error-free running program both for editing and running test purposes. It is also mandatory to provide the printed list of instructions with clear annotations on what has been changed with respect to the originally submitted version, both on the printed list and on the carbon copied release. Failure to do all of the above will lead to the impossibility to operate a direct evaluation of the real contribution by the student and therefore will result in a straight rejection.