

INTRODUCTION TO COMPUTATIONAL LOGIC
HOMEWORK 4
DUE DATE: DECEMBER 6, 2017

Please use the Coq file `hw2-2.v`¹ to show the following instance of the Chinese remainder theorem:

Theorem 1. *Let $m, n \in \mathbb{Z}$ and m, n be relatively prime. For every $a, b \in \mathbb{Z}$, there is an $x \in \mathbb{Z}$ such that*

$$\begin{aligned}x &\equiv a \pmod{m} \\x &\equiv b \pmod{n}.\end{aligned}$$

Hints:

- Bezout's coefficients in the Coq standard library `Znumtheory`² will be useful.
- Another useful on-line information is Software Foundations³.
- Send me emails if you have any question.

¹<http://www.iis.sinica.edu.tw/~bywang/courses/comp-logic/hw2-2.v>

²<https://coq.inria.fr/distrib/current/stdlib/>

³<https://softwarefoundations.cis.upenn.edu/current/index.html>