INTRODUCTION TO COMPUTATIONAL LOGIC
HOMEWORK 4
DUE DATE: DECEMBER 2, 2020

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*

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

Hints:

- Bezout's coefficients in the Coq standard library `Znumtheory`[2] will be useful.
- A useful on-line information is Software Foundations[3].
- Another useful on-line information is Certified Programming with Dependent Types[4].
- 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
[4] http://adam.chlipala.net/cpdt/html/toc.html