

CISC-102 FALL 2017

HOMEWORK 7

Please work on these problems and be prepared to share your solutions with classmates in class next week. Assignments will **not** be collected for grading.

READINGS

Read sections 11.8 of *Schaum's Outline of Discrete Mathematics*.

Read section 6.7 of *Discrete Mathematics Elementary and Beyond*.

PROBLEMS

- (1) Find all Natural numbers between 1 and 50 that are congruent to 4 (mod 11).
- (2) Find two Natural numbers a and b such that $2a \equiv 2b \pmod{6}$,
but $a \not\equiv b \pmod{6}$.
- (3) Prove that if $a \equiv b \pmod{m}$ and $c \equiv d \pmod{m}$ then $a - c \equiv b - d \pmod{m}$.
- (4) Write out each of the 5 residue classes (mod 5) for integers in the range -10 to 10.