

CSC236 tutorial exercises, Week #2

(best before Thursday afternoon)

Here are your tutorial sections:

Surname	Time	Room	TA
A-K	Friday 11	SS1088	Zhaowei
L-Tg	Friday 11	SS2105	Hamed
Th-Z	Friday 11	BA2175	Gal
A-L	Friday noon	AB114	Wen
M-Z	Friday noon	BF323	Lauren
A-K	Friday 1	BA1170	Ammar
L-Tg	Friday 1	AB107	Alex
Th-Z	Friday 1	AB114	Shems
A-K	Thursday 8	BA2139	Zach
L-Tg	Thursday 8	BA2185	Ekansh
Th-Z	Thursday 8	BA2195	Danniel

Prove the following claims using Mathematical Induction (AKA Simple Induction).

1. $\forall n \in \mathbb{N}$, $7^n - 1$ is a multiple of 6.
2. $\forall n \in \mathbb{N}$, the units digit of 7^n is in $\{1, 7, 9, 3\}$.
3. $\forall n \in \mathbb{N} - \{0, 1, 2, 3\}$, $4^n \geq n^4$