1. Write a function `leastSigDigs` that takes a list of `int`s and returns a list of the least significant digits in those lists. For example, `leastSigDigs([283, 7234, 5, 2380])` would return `[3, 4, 5, 0]`.

```
fun leastSigDigs([]) = []
  | leastSigDigs(x::rest) = (x mod 10)::leastSigDigs(rest);
```

2. Write a function `hasEmpty` that takes a list of lists (of any type) and determines whether or not the list of lists contains an empty list. For example, `hasEmpty([[1,2,3], [4,5], [], [6,7]])` would return `true`.

```
fun hasEmpty([]) = false
  | hasEmpty([]::rest) = true
  | hasEmpty(x::rest) = hasEmpty(rest);
```

3. Use quantified syllogisms (and, possible, common syllogisms and logical equivalences) to verify the following argument form. (Note that $x \notin A$ is the same thing as $\sim (x \in A)$.) (11 points.)

a. $\forall\ x \in A, P(x) \vee Q(x)$

b. $\forall\ x \in A, P(x) \rightarrow R(x)$

c. $\forall\ x \in A, Q(x) \rightarrow x \in B$

d. $\forall\ x \in B, x \notin A \vee R(x)$

e. $\therefore \forall\ x \in A, R(x)$

	Suppose $a \in A$	
(i)	$P(a) \vee Q(a)$	By supposition, (a), and UI
	Suppose $P(a)$	
(ii)	$R(a)$	By supposition, (b), and UMP
	Suppose $Q(a)$	
(iii)	$x \in B$	By supposition, (c), and UMP
(iv)	$R(a)$	By supposition, (iii), and elimination
(v)	$R(a)$	By (ii), (iv), supposition, and HDC
(vi)	$\therefore \forall\ x \in A, R(x)$	