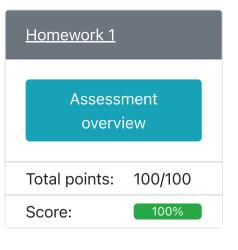
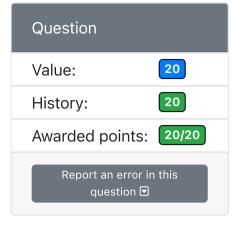
## HW1.5. Counting

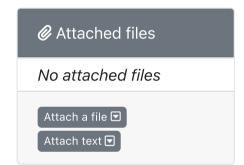
- 1: How many numbers can be represented by unsigned, base-4, n-digit numbers (n>1)?
- (a) 1
- $\bigcirc$  (b)  $2^n$
- $\bigcirc$  (c)  $2^n-1$
- $\bigcirc$  (d)  $2^{n-1}$
- $\bigcirc$  (e)  $4^n$
- $\bigcirc$  (f)  $4^n-1$
- $\bigcirc$  (g)  $4^{n-1}$
- 2: How many different **negative** integers are there among the n-digit, 2's complement numbers? (0 is neither positive nor negative.)
- $\odot$  (a) 1
- $\bigcirc$  (b)  $2^{n-1}-1$
- $\bigcirc$  (c)  $2^{n-1}$
- $\bigcirc$  (d)  $2^n$
- $\bigcirc$  (e)  $2^n-1$
- $\bigcirc$  (f) n
- $\bigcirc$  (g)  $n^2$
- $\odot$  (h)  $(n-1)^2$
- $\bigcirc$  (i)  $n^n$
- 3: How many different **positive** integers are there among the n-digit, 2's complement numbers? (0 is neither positive nor negative.)
- $\bigcirc$  (a) 1
- $\bigcirc$  (b)  $2^{n-1}-1$
- $\bigcirc$  (c)  $2^{n-1}$
- $\odot$  (d)  $2^n$
- $\odot$  (e)  $2^n-1$
- $\bigcirc$  (f) n
- $\bigcirc$  (g)  $n^2$
- $\odot$  (h)  $(n-1)^2$
- $\bigcirc$  (i)  $n^n$
- 4: How many zeros are there among the n-digit, 2's complement numbers?
- $\bigcirc$  (a) 1
- $\bigcirc$  (b)  $2^{n-1}-1$
- $\bigcirc$  (c)  $2^{n-1}$
- $\bigcirc$  (d)  $2^n$
- $\bigcirc$  (e)  $2^n-1$
- $\bigcirc$  (f) n
- $\odot$  (g)  $n^2$
- $\bigcirc$  (h)  $(n-1)^2$
- $\bigcirc$  (i)  $n^n$
- 5: What is the numerical difference between the most positive and most negative number that can be represented by n-digit, 2's complement numbers?
- $\bigcirc$  (a) 1
- $\bigcirc$  (b)  $2^{n-1}-1$







Next question



- $\bigcirc$  (c)  $2^{n-1}$
- $\bigcirc$  (d)  $2^n$
- $\bigcirc$  (e)  $2^n-1$
- $\bigcirc$  (f) n
- $\odot$  (g)  $n^2$
- $\bigcirc$  (h)  $(n-1)^2$
- $\bigcirc$  (i)  $n^n$

Save & Grade 20 attempts left

Save only

Additional attempts available with new variants 🔞