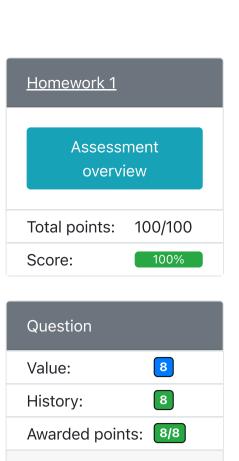
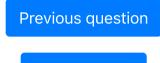
HW1.7. Choose Your Own Number Representation For this question, all numbers will be represented in 8 bits. For each part below, you will be given a choice between unsigned, sign-magnitude, two's complement, biased notation with +128 bias, and biased notation with -128 bias. Select all number representations that would be appropriate for the given criteria or select none of the above. Q1.1: You would like to represent the outdoor temperature in Chicago to the nearest degrees Celsius. (If you're not sure about the temperature ranges in Chicago, feel free to search online) (a) unsigned ☐ (b) sign-magnitude □ (c) two's complement \Box (d) biased notation w/ bias +128 \Box (e) biased notation w/ bias -128 \Box (f) None of the above Select all possible options that apply. ? Q1.2: You would like to represent the outdoor temperature in Chicago to the nearest Kelvin. Hint: $^{\circ}$ K \approx $^{\circ}$ C + 273 (a) unsigned ☐ (b) sign-magnitude (c) two's complement \Box (d) biased notation w/ bias +128 (e) biased notation w/ bias -128 \Box (f) None of the above Select all possible options that apply. ? Q1.3: You would like to maximize the range (distance between least representable number, and greatest representable number) ☐ (a) unsigned ☐ (b) sign-magnitude (c) two's complement \Box (d) biased notation w/ bias +128 \Box (e) biased notation w/ bias -128 \Box (f) None of the above Select all possible options that apply. Q1.4: You have a system that can already do arithmetic operations (addition, subtraction, multiplication) with unsigned numbers, and want to implement a signed number system that requires the fewest changes to your system. ☐ (a) sign-magnitude ☐ (b) two's complement \Box (c) biased notation w/ bias +128 ☐ (d) biased notation w/ bias -128 $\ \square$ (e) None of the above Select all possible options that apply.





Next question

Report an error in this question 모

