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Programming Assignment – 1

(Problem 1)
This problem was very straightforward. I take in an integer input from the user representing minutes, I use integer division to get the number of hours, I use modulo to get the remainder which is the number of minutes left after the hours have been determined, and I print it out formatted with a colon.

(Problem 2)
I bring in the user input as a string which allows me to use character methods to check if they are 0s, 1s, or spaces. I chose to include spaces in case the user inputs a binary number in 4-character sections (i.e. 0011 1010). If any character is found to be something else, it sets a boolean variable to false which triggers the print statement for non-binary numbers.

(Problem 3)
I bring in the user inputs and store them as lower and upper bounds. I create an oversized array to hold prime numbers and fill with 2 and 3 to start. I perform mod operator on every number from 4 to upperbound with each prime number stored in the array so far and store it in the array if it is prime. I print all prime numbers in the array between the range given by the user.

(Bonus)
I store user input as a string and loop through each character and count spaces, uppercase letters, digits, and special characters using ASCII numbers. I also check length of input. Based on those results I set Boolean values to false if they don't meet requirements. I print out results based on Boolean values.