**HW3**

I took four integers as input from the console. To find the factorial of the term 1 I used a for loop to multiply the first term by itself and each of the following integers, subtracting one each time. To find the sum of all the digits in term 2 I converted term 2 to a string and used .charAt(). I then ran a for loop to add up each integer. To find the reverse of term 3 I used a for loop that started at the end index of term 3 and iterated through it with a for loop while concating the character with a blank string variable. Finally, to check if term 4 was a palindrome I stored the length of the integer in a variable. I then iterated a for loop that started at the beginning of term4 and checked if it was equal to my variable that stored the length. I subtracted one from the length variable each iteration so it would check the first character to the last, the second character to the second to last, and so on. To run it I just typed”node hw3”

**Snake**

I added a “Start” button, a “Left” button, and a “Right” button. These buttons will control the program. I then created a fromX, fromY, toX, and toY variable. I assigned them values that the snake would begin at. I then created an onClick() function that triggers when the “Start” button is pressed. The button then starts the snake game. Next, I wrote a leftClick() and rightClick() function. These handle when the “Right” and “Left” button are pressed. They change the direction based upon which way the snake is traveling. A variable named direction saves the value the snake is traveling. 1 is North, 2 is East, 3 is South, and 4 is West. I then created my start function that would handle most of the snake game logic. It is triggered by the “Start” button.It starts off by checking if the game is running. If it isnt, it starts the game. If it is, then it pauses the game and changes the “Start” button to a “Stop” button. After that, the game increments the X and Y variables I defined earlier and updates the canvas based on the direction variable. The final step is to check if the snake has gone out of bounds. If it has, it stops the game. To run it, I just ran snake.html