Group Six Pablo Sanchez

Question 6

I started by creating the secret message, “Roses are red, violets are blue. My friends aced this class and now I will too.“ Shortly after a made a character array of size 32 which was to be my key for the vigenere cipher. I filled it with capital letters. I then encrypt the message by calling the function “cipher” and passing in the secret message and the key. It then returns the encrypted message which I store in a variable called “encrypted”. Once this is done I output the encrypted message. Then I start my while loop. The while loop says “While solved = false do this”. I created the global boolean variable “solved” and set it equal to false. So the loop will continue until “solved” is changed to equal true. I then output the number of total attempts and stored attempts. The stored attempts are the generated attempts that were above the threshold. I then call the createAttempt function and store it in that attempt variable i created earlier. The function checks the value that is passed in(threshold) and checks first if there are any stored attempts in our stored attempts array. (if the threshold is less than 3, there are not because the threshold is incremented when an attempt is saved.) If it is less than 3 then we just return a char array filled with random characters. We pass that returned value into the var “attempt” which we then test to see whether it is a good attempt or not. The test function then tests for matches that the attempt has with the key(that number of matches stored in a global var called counter). Then if the number is equal to 32, we then have a perfect match and we print out the deciphered message. If the number is not 32, but greater than the threshold, then we stored the attempt in an array of attempts as a good option for the genetic algorithm. If it is less than the threshold, then the attempt is disregarded, and we will go back and try again. Once we have enough stored attempts, we then create a new attempt based off previous attempts. Looking at the 3 x 32 array storedAttempts. The first two arrays in the array are previous attempts and the last is filled with another random char array. We need this last array to mix in with the other attempts to variate our “gene pool”, as we generate the next attempt from these three arrays.