# CS 305 Module Five Coding Assignment Checksum Verification Template

## Instructions

Using the instructions from theModule Five Coding Assignment Checksum Verification Guidelines and Rubric, replace the bracketed text with the relevant information in your own words.

## Algorithm Cipher

I used the **SHA-256** algorithm because it’s a secure and reliable option that avoids collisions. It’s a newer version of the SHA family and is still widely used today for hashing and data protection. SHA-256 makes sure that each hash value is unique, which helps keep data safe and unchanged.

## Justification

Avoiding collisions is important because it keeps files from being replaced or changed without anyone noticing. SHA-256 prevents two different files from having the same hash value, which means users can trust that the data they get is the real, original version. It’s a simple but effective way to make sure data stays secure and accurate.

## Generate Checksum

I updated the code to include my name in the data string and used SHA-256 to create the hash. The program generates a checksum and shows it in a web browser when visiting the /hash route. It displays my name, the algorithm, and the checksum value.

## Verification

I

