Shanmukh Iyer Introduction to Programming

Explain the validity or invalidity of defining the methods in the EncryptionProcedures class as static.

Static methods belong to the entire class as a whole instead of pertaining to each and every object created of that class. Because this encryption algorithm does not require instantiation of an entire Object of the EncryptionProcedures class and calling the methods within it to be able to encrypt our program, we can use the static keyword to ensure that the method can be accessed through the class directly. We can perform our operations (this case being encryption) independently of the internal state of the host class. Considering this functionality wherein objects don’t need to be created in order to access the methods, we can effectively use this (potentially and if the need arises) anywhere in our code; hence promoting reusability. Usually instances of static members and methods arise in helper classes wherein the main driver’s goal is to perform a mathematical operation, access a constant, or invoking singleton objects in higher-order software design practices.