1. What are the errors that arise while implementing the algorithm?

There are two types of errors that arise while implementing the algorithm they are:

1. Compile time

It is any type of error that prevent a java program compile like a syntax error, a class not found, a bad file name for the defined class, a possible loss of precision when you are mixing different java data types and so on. A runtime error means an error which happens, while the program is running. Compile time error have Lexical phase errors, Syntactic phase error and Semantic errors.

* Lexical phase errors

During the lexical analysis phase this type of error can be detected. Lexical error is a sequence of characters that do not match the pattern of any token. Lexical phase error is found during the execution of the program.

* Syntactic phase errors

Misplaced or mismatched parentheses, case statement outside of any switch statement.

* Semantic errors

Type mismatches between operators and operands

1. Runtime

A runtime error is a program error that occurs while the program is running. The terms are often used in contrast to other types of programs errors, such as syntax errors and compile time errors. There are many different types of runtime errors. One example is a logic error, which produces the wrong output

1. What is API? Why is it important in effective programming? Explain the implementation procedure of API in programming.

An application program interface (API) is a set of routines, protocols, and tools for building software applications. Basically, an API specifies how software components should interact. Additionally, APIs are used when programming graphical user interface (GUI) components.

API provides a simple way for developers to interact with other kind of software. If there were no APIs, the functionality of your applications would be limited, and the development time would increase significantly since any function that is not implemented as a module of one of the programming languages would have to be developed independently. APIs tie disparate applications together, allowing them to complement each other. The hotel selection service uses an external API for recognizing and cataloging photos of rooms, the same service itself through the API provides an opportunity to select and book hotel rooms, thus enriching the functionality of many travel applications.

If there were no API, each application would be limited to a narrow list of its own functions without the possibility of expanding it to something that others have already invented and used for a long time.

Start Using an API

1. Most APIs require an API key.
2. The easiest way to start using an API is by finding an HTTP client online, like REST-Client, Postman.
3. The next best way to pull data from an API is by building a URL from existing API documentation.