

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

Ans: Error is an illegal operation performed by the user which results in the abnormal working of the program. Programming errors often remain undetected until the program is compiled or executed. Some of the errors inhibit the program from getting compiled or executed. Thus, errors should be removed before compiling and executing.

Some of the type of errors that arises in Java are as follows:

i. Run Time Error:

A runtime error is a program error that occurs while the program is running. The term is often used in contrast to other types of program 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.

For Example: if the user inputs a data of string format when the computer is expecting an integer, there will be a runtime error.

ii. Compile time error:

Compile time error 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.

iii. Logical Error:

A logical error produces unintended or undesired output or other behavior, although it may not immediately be recognized as such. ... Unlike a program with a syntax error, a program with a logic error is a valid program in the language, though it does not behave as intended.

For example: If a programmer accidentally adds two variables when he or she meant to divide them, the program will give no error and will execute successfully but with an incorrect result.

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

Ans: 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. APIs tie disparate applications together, allowing them to complement each other.

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 so, API is important in effective programming.

Implementation procedure of API:

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.