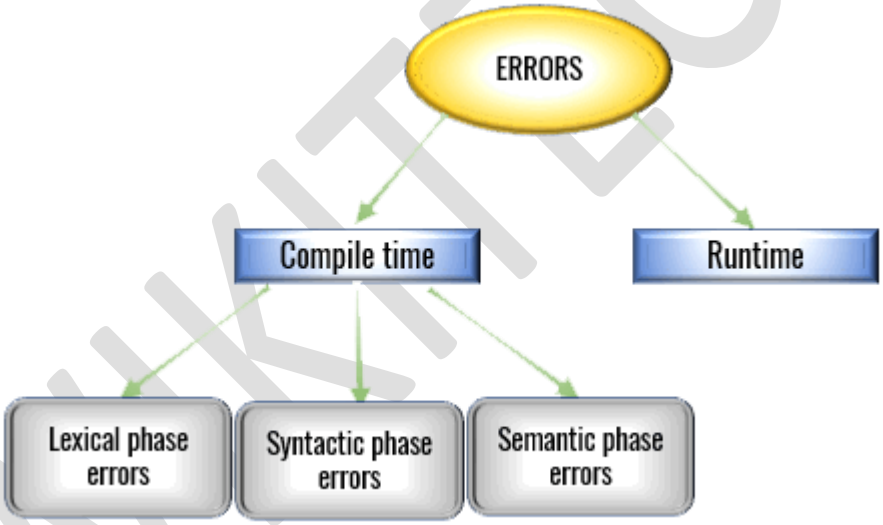
Error Detection and Recovery in Compiler

- An important role of the compiler is to report any errors in the source program that it detects during the entire translation process.
- Each phases of compiler can encounter errors, after detecting errors, must be corrected to precede compilation process.
- The syntax and semantic phases handle large number of errors in compilation process.
- Error handler handles all types of errors like lexical errors, syntax errors, semantic errors and logical errors.



Lexical phase errors

- These errors are detected during the lexical analysis phase.
- Exceeding length of identifier or numeric constants.

1xab is neither a number nor an identifier. So this code will show the lexical error

- Appearance of illegal characters printf Wikitechy("");$

This is a lexical error since an illegal character $ appears at the end of statement.

Example: switch is written as swich.

Panic mode Error Recovery

- In this Method, Successive characters from the input are removed one at a time until a designated set of synchronizing tokens is found.
- Synchronizing tokens are delimiters such as **; or }**

Advantage

- It is easy to implement and guarantees not to go to infinite loop.

Disadvantage

- Some inputs are skipped without checking it for additional errors.

For More Details Click Here:

https://www.wikitechy.com/tutorials/compiler-design/error-detection-and-recovery-in-compiler

