Debugging

Chapter No.	17
Status	Completed

▼ 3 Types of Errors

▼ Syntax Errors

- Syntax errors are errors in the use of the coding language itself

▼ Runtime Errors

- Runtime errors are errors where the coding language is asked to do something that it cannot do

▼ Logic Errors

- Logic errors are a broad class of errors that roughly cover all errors that are not syntax or runtime errors
- Logic errors occur when the syntax is correct and the coding language can execute it, however the result is not what the programmer intended

- These errors are also known as bugs

- Debugging refers to the process of finding bugs and correcting them

▼ 3 Steps of Debugging

▼ Test

- Testing refers to running tests to determine whether the program works as intended
- To test the program, we generally make use of test cases, which are a set of inputs which have a known expected output

▼ Probe

- Probing refers to locating the source(s) of the problem
- Common methods employed include: reading through the code, explaining what the code is supposed to do to someone else line by line or inserting print statements to understand what the program is doing

▼ Fix

- Fixing refers to modifying the code to make sure that the error no longer happens

▼ 3 Types of Test Cases

▼ Normal Test Cases

- Test cases with inputs that are likely to be entered into the program on a frequent basis by a user

▼ Abnormal Test Cases

- Test cases with inputs that are likely to be rarely entered into the program by a user

▼ Extreme Test Cases

- Test cases with inputs that are very unlikely or will never be entered into the program by a user, but may be supplied by other sources and could cause an error