

Interpreter

16.2 Translation Software

Candidates should be able to:

Show understanding of how an interpreter can execute programs without producing a translated version

Show understanding of the various stages in the compilation of a program

Show understanding of how the grammar of a language can be expressed using syntax diagrams or Backus-Naur Form (BNF) notation

Show understanding of how Reverse Polish Notation (RPN) can be used to carry out the evaluation of expressions

Notes and guidance

Including lexical analysis, syntax analysis, code generation and optimisation

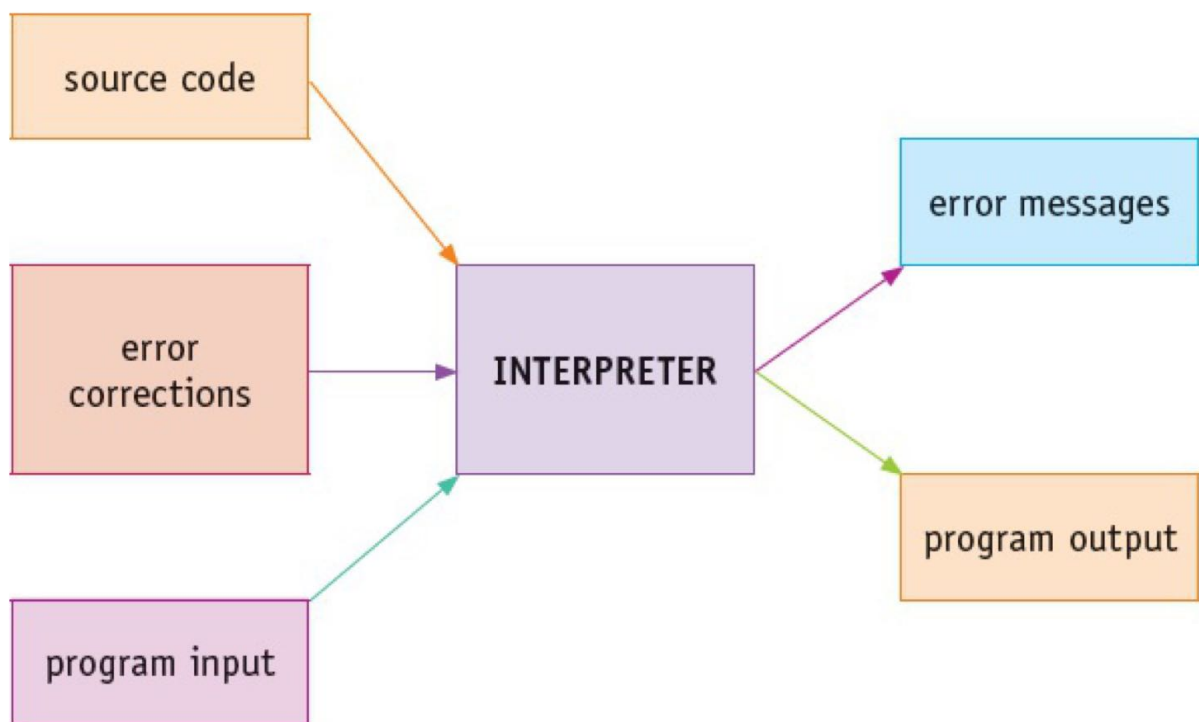


Figure 16.20

How an interpreter can execute the program without producing a complete translated version

- An interpreter examines source code one statement at a time
- Check each statement for errors
- If no error is found, the statement is executed
- If an error is found, this is reported and the interpreter halts

- Interpretation is repeated for every iteration in repeated section of code/ in loops
- Interpretation repeats every time the program runs

Why debug with interpreter

- Debugging is faster
- Can debug incomplete code
- Better diagnostics