

# Errors

## Syntax errors

- Grammar errors in programming languages
  - Misspelled variable/function names
  - Missing commas, semi-colons or other punctuations, etc.
  - Improperly matched/missing parentheses, square brackets, curly brackets, etc.
  - Incorrect format in FOR or WHILE loops

## Runtime errors:

- Occurs when programme with no syntax errors asks the computer to do something that it can't do:
  - Division by 0
  - Opening a file that doesn't exist

## Semantic error:

- Occurs when programme with no syntax error doesn't perform the function of user's intention
  - Invalid algorithm logic
  - Produces incorrect results when executed

## Logic errors:

- Design flaws in the programme:
  - Multiplication when division should be used
  - Opening and using data from the wrong file
  - Displaying wrong messages/warnings