

A decorative graphic on the left side of the slide, consisting of a network of white lines and small circles on a dark blue background, resembling a circuit board or a neural network.

# BOOLEAN DATA TYPE

zyBook 3.12

# BOOLEAN

- A logical type whose values are true and false .
- A logical test is actually a boolean expression.
- It is legal to
  - create a boolean variable
  - pass a boolean value as a parameter
  - return a boolean value from methods
  - call a method that returns a boolean and use it as a test

# WHY BOOLEAN?

- Can capture a complex logical test result and use it later
- Makes code more readable
- Can write a method that does a complex test and returns it
- Can pass around the result of a logical test (as parameter/return)

# SHORT CIRCUIT EVALUATION

Java stops evaluating a test if it knows the answer.

- **&& stops** early if any part of the test is **false**
- **|| stops** early if any part of the test is **true**

`2 > 3 && 4 < 5`

`false && ?`

`false`

`2 < 3 || 4 > 5`

`true || ?`

`true`