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TTCN-3 Language Extensions: Object-Oriented Features

**ETSI Standard**

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#### 5.1.1.11 Built-in classes

The abstract special built-in class called object is the superclass for all classes that do not explicitly extend another class.

The pseudo definition of that class is:

**type class @abstract @builtin** object {

 // This function will return a tool-specific descriptive string by default

 // but can be overridden by subclasses
   **public function** toString() **return universal charstring**;

 // Indicates wether some object is semantically equivalent to this one,

 // according to some equivalence relation.

 // The default implementation returns true if and only if both this and obj

 // are the same object instance, otherwise returns false.

 **public function** equals(object obj) **return boolean** {

 **return** this == obj;

 }

}

NOTE: The @builtin is only added for illustrative purposes and not part of the TTCN-3 language.

EXAMPLE:

**type class** Square {

 **public** **function** getSideLength() **return** **integer** { … }
…
 **public function** equals(object obj) **return boolean** {
 **if** (**this** == obj) {
 **return** **true**; }
 **else** **if** (obj **of** Rectangle) {
 // a rectangle is a square its width and height are of equal lengths
 **var** Rectangle rectangle := obj => Rectangle;
 **return** rectangle.getWidth() == getSideLength() **and**
 rectangle.getHeight() == getSideLength();
 }
 **else** **if** (obj **of** Square) {
 **return** getSideLength() == obj=>Square.getSideLength();
 }
 **return false**;
 }
}

**type class** Rectangle {
…

 **public function** getWidth() **return integer** { … }
 **public function** getHeight() **return integer** { … }
 **public function** equals(object obj) **return boolean** {
 **if** (**this** == obj) {
 **return** **true**; }
 **else** **if** (obj **of** Square) {
 **return** obj.**equals**(**this**)**;**
 }
 **else** if (obj **of** Rectangle) {
 **var** Rectangle r2 := obj => Rectangle;
 **return** getWidth() == r2.getWidth() **and** getHeight() == r2.getHeight();
 }
 **return** **false**;
 }
}