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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) {  
 // a square is always a rectangle  
 **return** obj.**equals**(**this**)**;**  
 }  
 **else** if (obj **of** Rectangle) {  
 **var** Rectangle r2 := obj => Rectangle;  
 **return** getWidth() == r2.getWidth() **and** getHeight() == r2.getHeight();  
 }  
 **return** **false**;  
 }  
}