## 19.3 The Select statements

### 19.3.1 The Select case statement

The **select case** statement is an alternative syntactic form of the **if-else** statement.

***Syntactical Structure***

**select** "(" *SingleExpression* ")" "{"

 { **case** "(" { *TemplateInstance*[","] } ")" *StatementBlock* }+

 [ **case** **else** *StatementBlock* ]

"}"

***Semantic Description***

The **select case** statement is an alternative to using **if** .. **else** **if** .. **else** statements when comparing a value to one or several other values. The statement contains a header part and one or more branches. Never more than one of the branches is executed.

In the header part of the **select case** statement an expression shall be given. Each branch starts with the **case** keyword followed by a list of templateInstance (a list branch, which may also contain a single element) or the **else** keyword (an else branch) and a statement block.

All templateInstance in all list branches shall be of a type compatible with the type of the expression in the header.
A list branch is selected and the statement block of the selected branch is executed only, if any of the templateInstance matches the value of the expression in the header of the statement. On executing the statement block of the selected branch (i.e. not jumping out by a go to statement), execution continues with the statement following the select case statement.

The statement block of an else branch is always executed if no other branch textually preceding the else branch has been selected.

Branches are evaluated in their textual order. If none of the templateInstance-s matches the value of the expression in the header and the statement contains no else branch, execution continues without executing any of the **select case** branches.

***Restrictions***

In addition to the general static rules of TTCN‑3 given in clause 5 and shown in table 15, the following restrictions apply:

1. The **select** *SingleExpression* and the **case** *TemplateInstance*-s shall be type compatible.

***Examples***

 **select** (PX\_MyModulePar) // where PX\_MyModulePar is of charstring type

 { **case** (**charstring**:"firstValue")
 {
 **log** ("The first branch is selected");
 }
 **case** (v\_myCharVar, c\_myCharConst)
 {
 **log** ("The second branch is selected");
 }
 **case** **else**
 {
 **log** ("The value of the module parameter PX\_MyModulePar is selected");
 }

 }

 // the above select statement is equivalent to the following nested if-else statement.

 // Note: the following textual replacement of the select-case statement is described in

 // the operational semantics of TTCN-3.

 {

 **var charstring** v\_myLocalVar := PX\_MyModulePar;

 **if** (**match**(v\_myTempVar, charstring:"firstValue")
 {
 **log** ("The first branch is selected");
 }
 **else** **if** (**match**(v\_myLocalVar, v\_myCharVar) **or** **match**(v\_myLocalVar, c\_myCharConst))
 {
 **log** ("The second branch is selected");
 }
 **else**
 {
 **log** ("The value of the module parameter PX\_MyModulePar is selected");
 }

 }