6.6.28 Appending

> *append-expression*:
>> **static**$_{opt}$ **append (** *object-selector* **,** *expression* **)**
>> **static**$_{opt}$ **append (** *object-selector* **,** *expression* **...)**
>> **static**$_{opt}$ **append (** *object-selector* **,** *expression* **,** *expression* **)**

6.6.28.1   An <u>append-expression</u> shall append a new value, or values, to the slice object specified by the first argument. Valid result types for <u>object-selector</u> shall either be a slice type, or a pointer to a valid result type. The selected object shall be mutable and non-const. The member type of this slice shall be the expression's *member type*. The result of an **append** shall be **void**.

6.6.28.2   The second term of an **append** expression is the *append values*. In the first form, the append values shall specify a single value whose type is assignable to the member type. In the second form, the expression shall have a valid result type which shall be an array or slice whose member type is the append expression's member type, or a pointer to a valid result type.

6.6.28.3   The execution environment shall ensure that the capacity of the object is at least $N \geq L^1 + L^2$, where L^1 is the object length and L^2 is the length of the append values, reallocating the underlying storage if necessary. If sufficient storage cannot be allocated, the execution environment shall print a diagnostic message and abort. The length of the object shall be set to $L^1 + L^2$.

6.6.28.4   The third form of an <u>append-expression</u> shall specify an expandable array as its second term, and its third term shall be assignable to **size**. This form shall behave similarly to the second form, except that the new length and capacity of the object is given by the third term.

6.6.28.5   The execution environment shall assign values of the object slice from index $N = L^1$ (inclusive) to $N = L^1 + L^2$ (exclusive) from each append values at index $N - L^1$. In the third form of <u>append-expression</u>, the last value of append values shall be assigned for values $N = L^1 + L^2$ (inclusive) up to the index given by the third term (exclusive).

6.6.28.6   The **static** forms shall be equivalent to the non-static forms except that they shall never cause the underlying slice to be reallocated. If the operation would require more space than the capacity of the slice provides, the execution environment shall print a diagnostic message and abort.