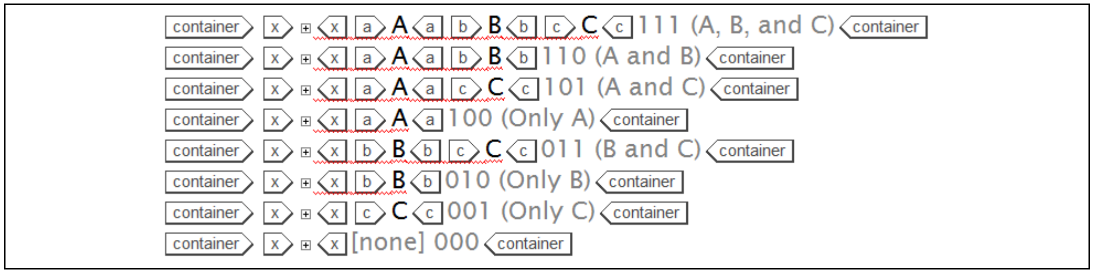
Using a "bitmap" string variable to apply formatting

The previous section described how to use a `counter` as a bitmap index number whose value can be tested with `specval` and #FOSI in order to output the appropriate gentext. In that example, all the elements in the content model must be included, but they may occur in any order.

This section describes how to use a string variable as a bitmap. In this case, the bimap records the presence or absence of each of three optional elements in a sequence. The various possibilities are represented by eight unique bitmap strings.

NOTE: The <x> element is included in the DTD only because it is bad form to define a container element with no required element. <x> is suppressed in the FOSI fragment.

Figure 315 Testing a "bitmap" string variable (Edit window view)



container x ⊞ x a A a b B b c C c 111 (A, B, and C) container
container x ⊞ x a A a b B b 110 (A and B) container
container x ⊞ x a A a c C c 101 (A and C) container
container x ⊞ x a A a 100 (Only A) container
container x ⊞ x b B b c C c 011 (B and C) container
container x ⊞ x b B b 010 (Only B) container
container x ⊞ x c C c 001 (Only C) container
container x ⊞ x [none] 000 container

SGML DTD fragment

```
<!ELEMENT container - - (x,a?,b?,c?) >
```

FOSI fragment

```
<stringdecl textid="a.txt" literal="0">
<stringdecl textid="a-bitmap.txt" literal="0">
<stringdecl textid="b.txt" literal="0">
<stringdecl textid="bitmap.txt" literal="0">
<stringdecl textid="b-bitmap.txt" literal="0">
<stringdecl textid="c.txt" literal="0">
<stringdecl textid="c-bitmap.txt" literal="0">
...
<e-i-c gi="a">
<charlist inherit="1">
<savetext textid="a.txt" conrule="#CONTENT">
<savetext textid="a-bitmap.txt" conrule="\1\"></charlist>
</e-i-c>
```

```
<e-i-c gi="b">
<charlist inherit="1">
<savetext textid="b.txt" conrule="#CONTENT">
<savetext textid="b-bitmap.txt" conrule="\1\"></charlist>
</e-i-c>
<e-i-c gi="c">
<charlist inherit="1">
<savetext textid="c.txt" conrule="#CONTENT">
<savetext textid="c-bitmap.txt" conrule="\1\"></charlist>
</e-i-c>
<e-i-c gi="container">
<charlist inherit="1" charsubsetref="block">
<savetext textid="a.txt" conrule="\\">
<savetext textid="b.txt" conrule="\\">
<savetext textid="c.txt" conrule="\\">
<savetext textid="a-bitmap.txt" conrule="\0\">
<savetext textid="b-bitmap.txt" conrule="\0\">
<savetext textid="c-bitmap.txt" conrule="\0\">
<savetext textid="bitmap.txt" placemnt="after"
conrule="a-bitmap.txt,b-bitmap.txt,c-bitmap.txt">
<usetext source="<container.psu>,</container.psu>" placemnt="after">
...
<e-i-c gi="x">
<charlist inherit="1" charsubsetref="SUPPRESS">...</charlist>
</e-i-c>
<e-i-c gi="container.psu">
<charlist inherit="1"></charlist>
<att>
<specval attname="bitmap.txt" attloc="#FOSI" attval="111">
<charsubset>
<usetext source="\111\,\ (A, B, and C)\"></usetext>
...
<att>
<specval attname="bitmap.txt" attloc="#FOSI" attval="110">
<charsubset>
<usetext source="\110\,\ (A and B)\"></usetext>
...
<att>
<specval attname="bitmap.txt" attloc="#FOSI" attval="101">
<charsubset>
...
<att>
<specval attname="bitmap.txt" attloc="#FOSI" attval="100">
<charsubset>
<usetext source="\100\,\ (Only A)\"></usetext>
...
<att>
<specval attname="bitmap.txt" attloc="#FOSI" attval="011">
<charsubset>
<usetext source="\011\,\ (B and C)\"></usetext>
...
```

```
<att>
<specval attname="bitmap.txt" attloc="#FOSI" attval="010">
<charsubset>
<usetext source="\010\,\ (Only B)\"></usetext>
...
<att>
<specval attname="bitmap.txt" attloc="#FOSI" attval="001">
<charsubset>
<usetext source="\001\,\ (Only C)\"></usetext>
...
<att>
<specval attname="bitmap.txt" attloc="#FOSI" attval="000">
<charsubset>
<usetext source="\[none]\,\ 000\"></usetext>
...
```