

Esercitazione XSLT

Paolo Papotti

<http://papotti.dia.uniroma3.it/>



```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<sorgente>
```

```
<titolo>La Divina Commedia</titolo>
```

```
<autore>Dante Alighieri</autore>
```

```
</sorgente>
```

input

```
<xsl:stylesheet version="1.0"
```

```
xmlns:xsl="http://www.w3c.org/1999/XSL/Transform">
```

```
<xsl:template match="/">
```

```
  <h2>
```

```
    <xsl:value-of select="//titolo"/>
```

```
  </h2>
```

```
  <h1>
```

```
    <xsl:value-of select="//autore"/>
```

```
  </h1>
```

```
</xsl:template>
```

```
</xsl:stylesheet>
```

XSLT

A)

```
<h2>La Divina Commedia</h2>
```

```
<h1>Dante Alighieri</h1>
```

B)

```
<h2>La Divina Commedia</h2>
```

C)

```
<h1>La Divina Commedia</h1>
```

```
<h2>Dante Alighieri</h2>
```

output

Quale di questi è l'output corretto?

E se volessimo ottenere in uscita i seguenti output?

```
<?xml version="1.0" encoding="UTF-8"?>

<sorgente>
<titolo>La Divina Commedia</titolo>
<autore>Dante Alighieri</autore>
</sorgente>
```

(2)

```
<html><body>
  <b>La Divina Commedia</b>
  <i>Dante Alighieri</i>
</body></html>
```

(3)

```
<sorgente>
<opera
  titolo="La Divina Commedia"
  autore="Dante Alighieri"/>
</sorgente>
```

```
<xsl:stylesheet version="2.0"
xmlns:xsl="http://www.w3c.org/1999/XSL/Transform">

<xsl:template match="/">
  <h2>
    <xsl:value-of select="//titolo"/>
  </h2>
  <h1>
    <xsl:value-of select="//autore"/>
  </h1>
</xsl:template>
</xsl:stylesheet>
```

```
<h2>La Divina Commedia</h2>
<h1>Dante Alighieri</h1>
```

```
<xsl:stylesheet version="2.0" xmlns:xsl="..">

<xsl:template match="/">
<sorgente>
  <opera titolo="{//titolo}" autore="{//autore}"/>
</sorgente>
</xsl:template>

</xsl:stylesheet>
```

E se avessimo più libri?

```
<?xml version="1.0" encoding="UTF-8"?>
<libreria>
  <libro>
    <titolo>La Divina Commedia</titolo>
    <autore>Dante Alighieri</autore>
  </libro>
  <libro>
    <titolo>I promessi sposi</titolo>
    <autore>A. Manzoni</autore>
  </libro>
</libreria>
```

```
<xsl:stylesheet version="2.0"
xmlns:xsl="http://www.w3c.org/1999/XSL/Transform">

  <xsl:template match="/">
    <h2>
      <xsl:value-of select="//titolo"/>
    </h2>
    <h1>
      <xsl:value-of select="//autore"/>
    </h1>
  </xsl:template>
</xsl:stylesheet>
```

```
<libri>
  <opera titolo="La Divina..."
    autore="Dante A..." />
  <opera titolo="I promessi.."
    autore="A.Man..." />
</libri>
```

```
<h2>La Divina Commedia I promessi sposi</h2>
<h1>Dante Alighieri A.Manzoni</h1>
```

```
<xsl:stylesheet ...>
  <xsl:template match="libreria">
    <libri>
      <xsl:apply-templates select="libro"/>
    </libri>
  </xsl:template>

  <xsl:template match="libro">
    <opera titolo="{titolo}" autore="{autore}"/>
  </xsl:template>
</xsl:stylesheet>
```

ESERCIZIO 1.

```
<source>
```

```
<AAA id="a1" pos="start">
```

```
<BBB id="b1"/>
```

```
<BBB id="b2"/>
```

```
</AAA>
```

```
<AAA id="a2">
```

```
<BBB id="b3"/>
```

```
<BBB id="b4"/>
```

```
<CCC id="c1">
```

```
<DDD id="d1"/>
```

```
</CCC>
```

```
<BBB id="b5">
```

```
<CCC id="c2"/>
```

```
</BBB>
```

```
</AAA>
```

```
</source>
```

esercizio.xml

esercizio_trasf.xsl

```
<xsl:stylesheet version = '1.0'  
  xmlns:xsl=...>
```

```
<xsl:template match="/">  
  <xsl:apply-templates/>  
</xsl:template>
```

```
<xsl:template match="/source">  
  <xsl:apply-templates/>  
</xsl:template>
```

```
<xsl:template match="AAA">  
  <div style="color:purple">  
    <xsl:value-of select="name()"/>  
    <xsl:text> id= </xsl:text>  
    <xsl:value-of select="@id"/>  
  </div>
```

```
</xsl:template>
```

```
</xsl:stylesheet>
```

```
<div style="color:purple">AAA id=a1</div>  
<div style="color:purple">AAA id=a2</div>
```

```
<source>
```

```
<AAA id="a1" pos="start">
```

```
  <BBB id="b1"/>
```

```
  <BBB id="b2"/>
```

```
</AAA>
```

```
<AAA id="a2">
```

```
  <BBB id="b3"/>
```

```
  <BBB id="b4"/>
```

```
  <CCC id="c1">
```

```
    <DDD id="d1"/>
```

```
  </CCC>
```

```
  <BBB id="b5">
```

```
    <CCC id="c2"/>
```

```
  </BBB>
```

```
</AAA>
```

```
</source>
```

esercizio.xml

(senza file)

```
<xsl:stylesheet version = '1.0'  
  xmlns:xsl=...>
```

```
<xsl:template match="AAA">
```

```
  <div style="color:purple">
```

```
    <xsl:value-of select="name()"/>
```

```
    <xsl:text> id=</xsl:text>
```

```
    <xsl:value-of select="@id"/>
```

```
  </div>
```

```
</xsl:template>
```

```
<div style="color:purple">AAA id=a1</div>
```

```
<div style="color:purple">AAA id=a2</div>
```

sheet>

```

<source>

<AAA id="a1" pos="start">
  <BBB id="b1"/>
  <BBB id="b2"/>
</AAA>
<AAA id="a2">
  <BBB id="b3"/>
  <BBB id="b4"/>
  <CCC id="c1">
    <DDD id="d1"/>
  </CCC>
  <BBB id="b5">
    <CCC id="c2"/>
  </BBB>
</AAA>

</source>

```

esercizio.xml

```

<xsl:template match="AAA">                                esercizio_trasf1.xsl
  <div style="color:purple">
    <xsl:value-of select="name()"/>
    <xsl:text> id=</xsl:text>
    <xsl:value-of select="@id"/>
  </div>
</xsl:template>

<xsl:template match="BBB">
  <div style="color:blue">
    <xsl:value-of select="name()"/>
    <xsl:text> id=</xsl:text>
    <xsl:value-of select="@id"/>
  </div>
</xsl:template>

<xsl:template match="CCC">
  <div style="color:maroon">
    <xsl:value-of select="name()"/>
    <xsl:text> id=</xsl:text>
    <xsl:value-of select="@id"/>
  </div>
</xsl:template>

<xsl:template match="DDD">
  <div style="color:green">
    <xsl:value-of select="name()"/>
    <xsl:text> id=</xsl:text>
    <xsl:value-of select="@id"/>
  </div>
</xsl:template>

</xsl:stylesheet>

```

```

<div style="color:purple">AAA id=a1</div>
<div style="color:purple">AAA id=a2</div>

```

```

<source>

<AAA id="a1" pos="start">
  <BBB id="b1"/>
  <BBB id="b2"/>
</AAA>
<AAA id="a2">
  <BBB id="b3"/>
  <BBB id="b4"/>
  <CCC id="c1">
    <DDD id="d1"/>
  </CCC>
  <BBB id="b5">
    <CCC id="c2"/>
  </BBB>
</AAA>

</source>

```

esercizio.xml

```

<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet version = '2.0' ....>

<xsl:template match="AAA">
  <div style="color:purple">
    <xsl:value-of select="name()"/>
    <xsl:text> id=</xsl:text>
    <xsl:value-of select="@id"/>
  </div>
  <xsl:apply-templates/>
</xsl:template>

<xsl:template match="BBB">
  <div style="color:blue">
    <xsl:value-of select="name()"/>
    <xsl:text> id=</xsl:text>
    <xsl:value-of select="@id"/>
  </div>
</xsl:template>

<xsl:template match="CCC">
  <div style="color:maroon">
    <xsl:value-of select="name()"/>
    <xsl:text> id=</xsl:text>
    <xsl:value-of select="@id"/>
  </div>
</xsl:template>

```

```

<div style="color:purple">AAA id=a1</div>
<div style="color:blue">BBB id=b1</div>
<div style="color:blue">BBB id=b2</div>
<div style="color:purple">AAA id=a2</div>
<div style="color:blue">BBB id=b3</div>
<div style="color:blue">BBB id=b4</div>
<div style="color:maroon">CCC id=c1</div>
<div style="color:blue">BBB id=b5</div>

```

```

te match="DDD">
e="color:green">
value-of select="name()"/>
text> id=</xsl:text>
value-of select="@id"/>
ate>

```

</xsl:stylesheet>


```

<source>

<AAA id="a1" pos="start">
  <BBB id="b1"/>
  <BBB id="b2"/>
</AAA>
<AAA id="a2">
  <BBB id="b3"/>
  <BBB id="b4"/>
  <CCC id="c1">
    <DDD id="d1"/>
  </CCC>
  <BBB id="b5">
    <CCC id="c2"/>
  </BBB>
</AAA>

</source>

```

esercizio.xml

```

<div style="color:purple">AAA id=a1</div>
<div style="color:blue">BBB id=b1</div>
<div style="color:blue">BBB id=b2</div>
<div style="color:purple">AAA id=a2</div>
<div style="color:blue">BBB id=b3</div>
<div style="color:blue">BBB id=b4</div>
<div style="color:maroon">CCC id=c1</div>
<div style="color:green">DDD id=d1</div>
<div style="color:blue">BBB id=b5</div>
<div style="color:maroon">CCC id=c2</div>

```

```

<xsl:stylesheet version = '1.0' xmlns:xsl=...>
<xsl:template match="AAA">
  <div style="color:purple">
    <xsl:value-of select="name()"/>
    <xsl:text> id=</xsl:text>
    <xsl:value-of select="@id"/>
  </div>
  <xsl:apply-templates/>
</xsl:template>

<xsl:template match="BBB">
  <div style="color:blue">
    <xsl:value-of select="name()"/>
    <xsl:text> id=</xsl:text>
    <xsl:value-of select="@id"/>
  </div>
  <xsl:apply-templates/>
</xsl:template>

<xsl:template match="CCC">
  <div style="color:maroon">
    <xsl:value-of select="name()"/>
    <xsl:text> id=</xsl:text>
    <xsl:value-of select="@id"/>
  </div>
  <xsl:apply-templates/>
</xsl:template>

```

```

<xsl:template match="DDD">
  <div style="color:green">
    <xsl:value-of select="name()"/>
    <xsl:text> id=</xsl:text>
    <xsl:value-of select="@id"/>
  </div>
  <xsl:apply-templates/>
</xsl:template>
</xsl:stylesheet>

```

ESERCIZIO 2.

```
<?xml version="1.0" encoding="UTF-8"?>
<sorgente>
<AAA id="a1">
  <BBB id="b1"/>
  <BBB id="b2">
    <CCC id="c1"/>
    <CCC id="c2">
      <DDD id="d1"/>
    </CCC>
  </BBB>
  <BBB id="b3"/>
</AAA>
</sorgente>
```

sorgente.xml

sorgente_trasf.xsl

```
<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet ...>
<xsl:template match="AAA">
  <xsl:text>AAA </xsl:text>
  <xsl:apply-templates/>
</xsl:template>

<xsl:template match="BBB">
  <xsl:text>BBB </xsl:text>
  <xsl:apply-templates/>
</xsl:template>

<xsl:template match="CCC">
  <xsl:text>CCC </xsl:text>
  <xsl:apply-templates/>
</xsl:template>

<xsl:template match="DDD">
  <xsl:text>DDD </xsl:text>
  <xsl:apply-templates/>
</xsl:template>
</xsl:stylesheet>
```

Quale output verrà prodotto dall'applicazione del foglio di stile al documento?

- a) DDD CCC CCC BBB BBB BBB AAA
- b) AAA BBB BBB CCC CCC DDD BBB
- c) AAA BBB CCC DDD
- d) AAA BBB BBB BBB CCC CCC DDD

ESERCIZIO 3.

```
<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet href="libreria_scaffali_trasf.xsl"
type="text/xsl"?>
```

```
<libreria>
  <libri>
    <libro scaffale="A">
      <titolo>XML Programming</titolo>
      <prezzo valuta="EUR">25</prezzo>
      <autore>Mario Rossi</autore>
      <autore>Paolo Bianchi</autore>
    </libro>

    <libro scaffale="B">
      <titolo>Java Programming</titolo>
      <prezzo valuta="USD">30</prezzo>
      <autore>Paolo Bianchi</autore>
    </libro>

    <libro scaffale="A">
      <titolo>XPath Pocket Guide</titolo>
      <prezzo valuta="USD">10</prezzo>
      <autore>Franco Verdi</autore>
    </libro>
  </libri>
</libreria>
```

libreria.xml

???

libreria_trasf.xsl

```
<html>
  <body>

    <div class="libro">
      <ul>
        <li>titolo: TITOLO LIBRO</li>
        <li>autore: PRIMO AUTORE LIBRO</li>
        <li>autore: SECONDO AUTORE
LIBRO</li>
      </ul>
    </div>

    ....

  </body>
</html>
```

ESERCIZIO 3.

```

<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet href="libreria.xsl" type="text/xsl"?>

<libreria>
  <libri>
    <libro scaffale="1">
      <titolo>Il Signore degli Anelli</titolo>
      <prezzo>15.00</prezzo>
      <autore>J.R.R. Tolkien</autore>
    </libro>
    <libro scaffale="2">
      <titolo>Il Hobbit</titolo>
      <prezzo>10.00</prezzo>
      <autore>J.R.R. Tolkien</autore>
    </libro>
    <libro scaffale="3">
      <titolo>Il Signore degli Anelli: Il ritorno del re</titolo>
      <prezzo>20.00</prezzo>
      <autore>J.R.R. Tolkien</autore>
    </libro>
  </libri>
</libreria>

<xsl:stylesheet version="2.0" ..>
  <xsl:template match="/">
    <html>
      <body>
        <h1>Elenco libri in libreria</h1>
        <xsl:apply-templates/>
      </body>
    </html>
  </xsl:template>

  <xsl:template match="libro">
    <div class="libro" style="background-color:yellow">
      <ul>
        <xsl:apply-templates/>
      </ul>
    </div>
  </xsl:template>

  <xsl:template match="titolo">
    <li>
      <xsl:text>titolo: </xsl:text><xsl:value-of select="text()" />
    </li>
  </xsl:template>

  <xsl:template match="autore">
    <li>
      <xsl:text>autore: </xsl:text><xsl:value-of select="text()" />
    </li>
  </xsl:template>

  <xsl:template match="prezzo"></xsl:template>

</xsl:stylesheet>

```

BRO

<?xml version="1.0" encoding="UTF-8"?>

<cineteca>

<film anno="1994">

<titolo>Blade Runner</titolo>

<regista> <cognome>Scott</cognome><nome>Ridley</nome> </regista>

<attori> <attore>Harrison Ford</attore> <attore>Rutger Hauer</attore> </attori>

<produzione>Warner Bros</produzione>

<durata>118</durata>

</film>

<film anno="1995">

<titolo>Pulp Fiction</titolo>

<regista> <cognome>Tarantino</cognome><nome>Quentin</nome> </regista>

<attori>

<attore>John Travolta</attore>

<attore>Samuel L. Jackson</attore>

<attore>Uma Thurman</attore>

</attori>

<produzione>Warner Bros</produzione>

<durata>154</durata>

</film>

<film anno="1968">

<titolo>2001: Odissea Nello Spazio</titolo>

<regista> <cognome>Kubrick</cognome><nome>Stanley</nome> </regista>

<attori> <attore>HAL 9000</attore> </attori>

<produzione>Istituto Luce</produzione>

<durata>141</durata>

</film> </cineteca>

scrivere XSLT che restituisce un file HTML:

- Blade Runner - regista: RidleyScott
- Pulp Fiction - regista: QuentinTarantino
- 2001: Odissea Nello Spazio - regista: StanleyKubrick

```
<xsl:stylesheet ...>
```

```
  <xsl:template match="cineteca">
```

```
    <html>
```

```
      <head>
```

```
        <title>Films</title>
```

```
      </head>
```

```
      <body>
```

```
        <ul>
```

```
          <xsl:apply-templates select="film"/>
```

```
        </ul>
```

```
      </body>
```

```
    </html>
```

```
  </xsl:template>
```

```
  <xsl:template match="film">
```

```
    <li>
```

```
      <b><xsl:value-of select="titolo"/></b> -
```

```
      <xsl:apply-templates select="registra"/>
```

```
    </li>
```

```
  </xsl:template>
```

```
  <xsl:template match="registra">
```

```
    regista:
```

```
      <xsl:value-of select="nome"/>
```

```
      <xsl:value-of select="cognome"/>
```

```
  </xsl:template>
```

```
</xsl:stylesheet>
```