

Basi di dati II – Prova parziale del 25/05/2009

Possibile soluzione domanda 1 (30%)

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE annunci SYSTEM "annunci.dtd">
<annunci>
  <annuncio id="k2299045">
    <data><giorno>25</giorno><mese>5</mese><anno>2009</anno></data>
    <contratto>Vendita</contratto>
    <mq>75</mq>
    <nlocali>4</nlocali>
    <nbagni>1</nbagni>
    <piano>2</piano>
    <zona>Montesacro</zona>
    <descrizione>
      MONTESACRO, secondo piano rialzato, 75 mq, tre camere, bagno,
      cucina abitabile, balcone.
    </descrizione>
    <indirizzo>Via Monti Sacri 11</indirizzo>
    <prezzo>280.000</prezzo>
  </annuncio>
</annunci>

<!ELEMENT annunci (annuncio)+ >
<!ELEMENT annuncio (data,contratto,mq?,nlocali?,nbagni?,piano,zona,
  descrizione,indirizzo,prezzo)>
<!ATTLIST annuncio id ID #REQUIRED>
<!ELEMENT data (giorno,mese,anno)>
<!ELEMENT contratto (#PCDATA)>
<!ELEMENT mq (#PCDATA)>
<!ELEMENT nlocali (#PCDATA)>
<!ELEMENT nbagni (#PCDATA)>
<!ELEMENT piano (#PCDATA)>
<!ELEMENT zona (#PCDATA)>
<!ELEMENT descrizione (#PCDATA)>
<!ELEMENT indirizzo (#PCDATA)>
<!ELEMENT prezzo (#PCDATA)>
<!ELEMENT giorno (#PCDATA)>
<!ELEMENT mese (#PCDATA)>
<!ELEMENT anno (#PCDATA)>
```

Possibile somanda 2 (35%)

```
<?xml version="1.0" encoding="UTF-8"?>
<programma xmlns="http://concerti.org"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://concerti.org concerti.xsd">
  <concerto>
    <titolo>Serata d'onore</titolo>
    <data><giorno>22</giorno><mese>09</mese><anno>2009</anno></data>
    <luogo>Auditorium</luogo>
    <pezzi>
      <pezzo codice="p1">
        <titolo>Notturmo</titolo>
        <autore>Mozart</autore>
      </pezzo>
      <pezzo codice="p2">
        <titolo>Primavera</titolo>
        <autore>Vivaldi</autore>
      </pezzo>
    </pezzi>
    <orchestra>
      <nome>Filarmonica romana</nome>
      <direttore>Riccardo Cechi</direttore>
      <orchestrali>
        <orchestrare matricola="1">Pino Pini</orchestrare>
        <orchestrare matricola="2">Gino Gini</orchestrare>
        <orchestrare matricola="3">Mino Mini</orchestrare>
      </orchestrali>
    </orchestra>
  </concerto>
</programma>
```

```

<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns="http://concerti.org"
  targetNamespace="http://concerti.org" elementFormDefault="qualified">
  <xs:element name="programma">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="concerto" type="Tconcerto" minOccurs="0" maxOccurs="unbounded"/>
      </xs:sequence>
    </xs:complexType>
    <xs:key name="key_orchestrale">
      <xs:selector xpath="./orchestrale"/><xs:field xpath="@matricola"/>
    </xs:key>
  </xs:element>
  <xs:complexType name="Tconcerto">
    <xs:sequence>
      <xs:element name="titolo" type="xs:string"/>
      <xs:element ref="data"/>
      <xs:element name="luogo" type="xs:string" minOccurs="0"/>
      <xs:element name="pezzi">
        <xs:complexType>
          <xs:sequence>
            <xs:element name="pezzo" type="Tpezzo" maxOccurs="unbounded"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
      <xs:element name="orchestra" type="Torchestra"/>
    </xs:sequence>
  </xs:complexType>
  <xs:element name="data">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="giorno" type="xs:string"/>
        <xs:element name="mese" type="xs:string"/>
        <xs:element name="anno" type="xs:string"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:complexType name="Tpezzo">
    <xs:sequence>
      <xs:element name="titolo" type="xs:string"/>
      <xs:element name="autore" type="xs:string"/>
    </xs:sequence>
    <xs:attribute name="codice" type="xs:string" use="required"/>
  </xs:complexType>
  <xs:complexType name="Torchestra">
    <xs:sequence>
      <xs:element name="nome" type="xs:string"/>
      <xs:element name="direttore" type="xs:string"/>
      <xs:element name="orchestrali">
        <xs:complexType>
          <xs:sequence>
            <xs:element name="orchestrale" type="Torchestrale" maxOccurs="unbounded"/>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
    </xs:sequence>
  </xs:complexType>
  <xs:complexType name="Torchestrale">
    <xs:simpleContent>
      <xs:extension base="xs:string">
        <xs:attribute name="matricola" type="xs:integer" use="required"/>
      </xs:extension>
    </xs:simpleContent>
  </xs:complexType>
</xs:schema>

```

Possibile somanda 3 (35%)

- (a) `//*[./stipendio>60]/nome`
- (b) `//divisione[./direttore/stipendio>100]//impiegato`
- (c) `//impiegato[./stipendio>.././direttore/stipendio]/nome`
- (d) `//divisione[./impiegato[3]]/nome/text()`
- (e) `//direttore/nome/text()`