CSE 3002

INTERNET & WEB PROGRAMMING



Lab Activity 8

L29+L30 | PLB117A

FALL SEMESTER 2021-22

by

SHARADINDU ADHIKARI

19BCE2105

Question

Activity - 8

Mark as done

Design an XML data for medical billing calculation. Have separate XML file for one fr stock, one for billing, one for sale report day wise. Form the corresponding DTD and validate them

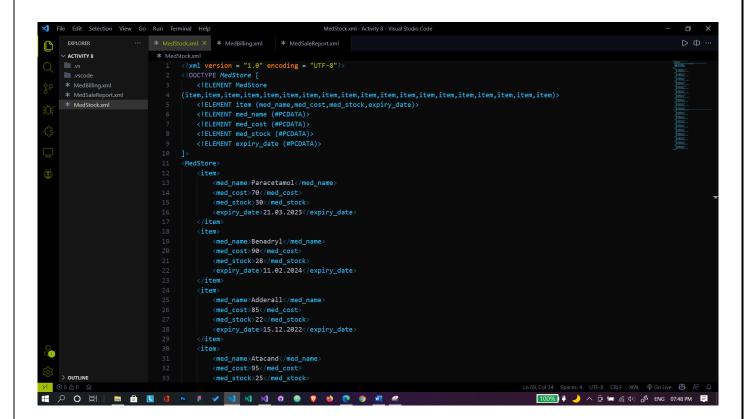
Solution

MedStock.xml

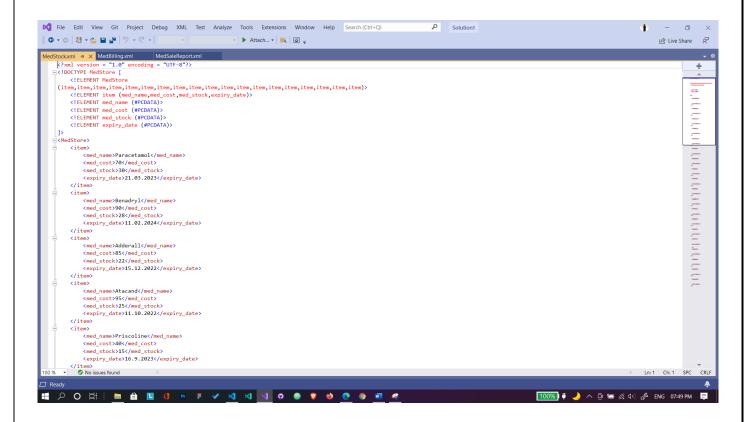
```
<?xml version = "1.0" encoding = "UTF-8"?>
<!DOCTYPE MedStore [
                <!ELEMENT MedStore
 (item, item, item,
em,item)>
                <!ELEMENT item (med_name,med_cost,med_stock,expiry_date)>
                <!ELEMENT med_name (#PCDATA)>
                <!ELEMENT med_cost (#PCDATA)>
                <!ELEMENT med_stock (#PCDATA)>
                <!ELEMENT expiry_date (#PCDATA)>
]>
<MedStore>
                <item>
                                <med_name>Paracetamol</med_name>
                                <med_cost>70</med_cost>
                                <med_stock>30</med_stock>
                                <expiry_date>21.03.2023</expiry_date>
                </item>
                 <item>
                                <med_name>Benadryl</med_name>
                                <med_cost>90</med_cost>
                                <med_stock>28</med_stock>
                                <expiry_date>11.02.2024</expiry_date>
                </item>
                <item>
                                <med_name>Adderall</med_name>
```

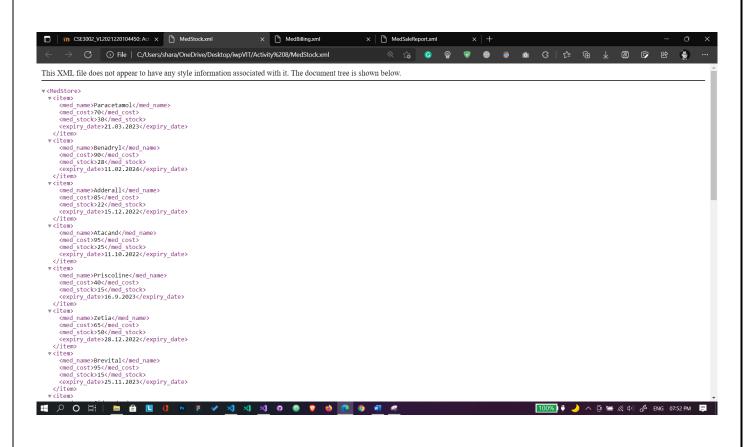
```
<med_cost>85</med_cost>
    <med_stock>22</med_stock>
    <expiry_date>15.12.2022</expiry_date>
</item>
<item>
    <med_name>Atacand</med_name>
    <med cost>95</med cost>
    <med_stock>25</med_stock>
    <expiry_date>11.10.2022</expiry_date>
</item>
<item>
    <med_name>Priscoline</med_name>
    <med_cost>40</med_cost>
    <med_stock>15</med_stock>
    <expiry_date>16.9.2023</expiry_date>
</item>
<item>
    <med_name>Zetia</med_name>
    <med_cost>65</med_cost>
    <med_stock>50</med_stock>
    <expiry_date>28.12.2022</expiry_date>
</item>
<item>
    <med_name>Brevital</med_name>
    <med_cost>95</med_cost>
    <med_stock>15</med_stock>
    <expiry_date>25.11.2023</expiry_date>
</item>
<item>
    <med_name>Cidex</med_name>
    <med_cost>215</med_cost>
    <med_stock>88</med_stock>
    <expiry_date>8.5.2023</expiry_date>
</item>
<item>
    <med_name>Lodine</med_name>
    <med_cost>75</med_cost>
    <med_stock>30</med_stock>
    <expiry_date>19.12.2021</expiry_date>
</item>
<item>
    <med_name>Dioval</med_name>
    <med_cost>20</med_cost>
    <med_stock>40</med_stock>
```

```
<expiry_date>21.10.2022</expiry_date>
</item>
<item>
    <med_name>Dopamine</med_name>
    <med cost>85</med cost>
    <med_stock>15</med_stock>
    <expiry_date>14.3.2023</expiry_date>
</item>
<item>
    <med_name>Paxil</med_name>
    <med_cost>29</med_cost>
    <med_stock>100</med_stock>
    <expiry_date>10.3.2022</expiry_date>
</item>
<item>
    <med_name>Levbid</med_name>
    <med_cost>45</med_cost>
    <med_stock>70</med_stock>
    <expiry_date>3.12.2022</expiry_date>
</item>
<item>
    <med_name>Xanax</med_name>
    <med_cost>95</med_cost>
    <med_stock>32</med_stock>
    <expiry_date>19.9.2022</expiry_date>
</item>
<item>
    <med_name>Vexol</med_name>
    <med_cost>180</med_cost>
    <med_stock>35</med_stock>
    <expiry_date>30.4.2022</expiry_date>
</item>
    <item>
    <med_name>Evista</med_name>
    <med_cost>120</med_cost>
    <med_stock>45</med_stock>
    <expiry_date>14.6.2022</expiry_date>
</item>
<item>
    <med_name>Amaryl</med_name>
    <med_cost>195</med_cost>
    <med_stock>15</med_stock>
    <expiry_date>31.8.2023</expiry_date>
</item>
```



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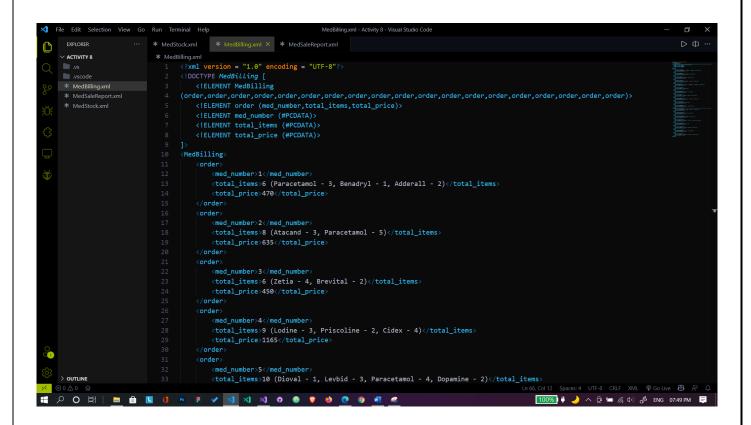


MedBilling.xml

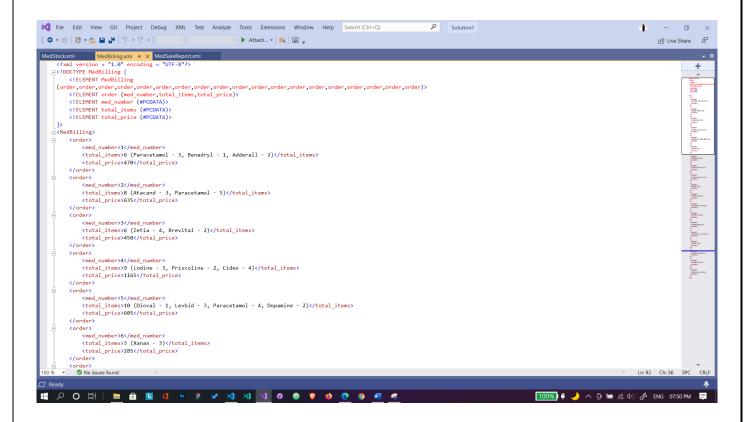
```
<?xml version = "1.0" encoding = "UTF-8"?>
<!DOCTYPE MedBilling [</pre>
           <!ELEMENT MedBilling
(order, order, o
er, order, order, order)>
           <!ELEMENT order (med_number,total_items,total_price)>
           <!ELEMENT med_number (#PCDATA)>
           <!ELEMENT total_items (#PCDATA)>
           <!ELEMENT total_price (#PCDATA)>
]>
<MedBilling>
           <order>
                     <med_number>1</med_number>
                     <total_items>6 (Paracetamol - 3, Benadryl - 1, Adderall - 2)</total_items>
                      <total_price>470</total_price>
           </order>
           <order>
                      <med_number>2</med_number>
                     <total_items>8 (Atacand - 3, Paracetamol - 5)</total_items>
                      <total_price>635</total_price>
           </order>
           <order>
                      <med number>3</med number>
                      <total_items>6 (Zetia - 4, Brevital - 2)</total_items>
                      <total price>450</total price>
           </order>
           <order>
                      <med_number>4</med_number>
                     <total_items>9 (Lodine - 3, Priscoline - 2, Cidex - 4)</total_items>
                      <total_price>1165</total_price>
           </order>
           <order>
                      <med number>5</med number>
                     <total_items>10 (Dioval - 1, Levbid - 3, Paracetamol - 4, Dopamine -
2)</total items>
                      <total_price>605</total_price>
           </order>
           <order>
                      <med_number>6</med_number>
                      <total_items>3 (Xanax - 3)</total_items>
                      <total price>285</total price>
```

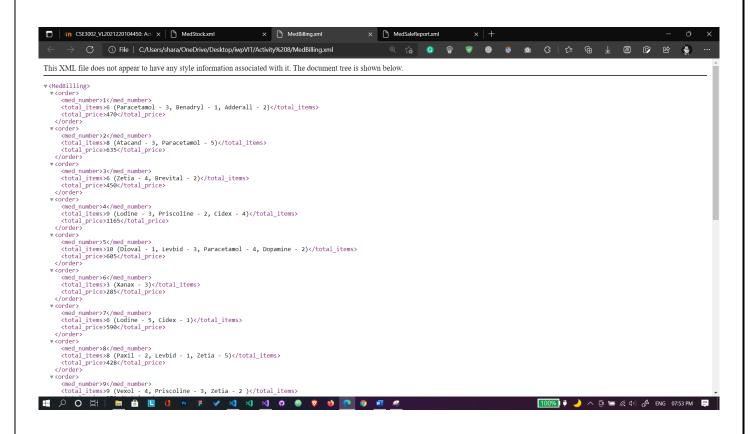
```
</order>
<order>
    <med number>7</med number>
    <total_items>6 (Lodine - 5, Cidex - 1)</total_items>
    <total price>590</total price>
</order>
<order>
    <med_number>8</med_number>
    <total_items>8 (Paxil - 2, Levbid - 1, Zetia - 5)</total_items>
    <total_price>428</total_price>
</order>
<order>
    <med_number>9</med_number>
    <total_items>9 (Vexol - 4, Priscoline - 3, Zetia - 2 )</total_items>
    <total price>970</total price>
</order>
<order>
    <med_number>10</med_number>
    <total_items>7 (Brevital - 7)</total_items>
    <total_price>665</total_price>
</order>
<order>
    <med_number>11</med_number>
    <total_items>8 (Benadryl - 4, Xanax - 4)</total_items>
    <total_price>740</total_price>
</order>
<order>
    <med_number>12</med_number>
    <total_items>8 (Paracetamol - 3, Cidex - 1, Vexol - 4 )</total_items>
    <total price>1145</total price>
</order>
<order>
    <med_number>13</med_number>
    <total_items>4 (Lodine - 1, Zetia - 3)</total_items>
    <total_price>270</total_price>
</order>
<order>
    <med_number>14</med_number>
    <total_items>12 (Atacand - 10, Benadryl - 2)</total_items>
    <total_price>1130</total_price>
</order>
<order>
    <med_number>15</med_number>
    <total_items>18 (Zetia - 6, Paxil - 3, Cidex - 1, Levbid - 8)</total_items>
```

```
<total_price>1052</total_price>
    </order>
    <order>
        <med_number>16</med_number>
        <total_items>5 (Roxanol - 5)</total_items>
        <total_price>325</total_price>
    </order>
    <order>
        <med_number>17</med_number>
        <total_items>9 (Evista - 3, Xanax - 4, Amaryl - 2)</total_items>
        <total_price>1130</total_price>
    </order>
    <order>
        <med_number>18</med_number>
        <total_items>7 (Benadryl - 1, Vexol - 6)</total_items>
        <total_price>1170</total_price>
    </order>
    <order>
        <med_number>19</med_number>
        <total_items>6 (Paxil - 2, Liodine - 1, Zovirax - 3)</total_items>
        <total_price>853</total_price>
    </order>
</MedBilling>
```



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MedSaleReport.xml

```
<?xml version = "1.0" encoding = "UTF-8"?>
<!DOCTYPE MedSaleReport [</pre>
   <!ELEMENT MedSaleReport
<!ELEMENT day (DateOfSale, SalesNumber, NumberOfItemsSold, TotalRevenue)>
   <!ELEMENT DateOfSale (#PCDATA)>
   <!ELEMENT SalesNumber (#PCDATA)>
   <!ELEMENT NumberOfItemsSold (#PCDATA)>
   <!ELEMENT TotalRevenue (#PCDATA)>
]>
<MedSaleReport>
   <day>
       <DateOfSale>1.11.2021
       <SalesNumber>9</SalesNumber>
       <NumberOfItemsSold>35</NumberOfItemsSold>
       <TotalRevenue>6700</TotalRevenue>
   </day>
   <day>
       <DateOfSale>2.11.2021
       <SalesNumber>14</SalesNumber>
       <NumberOfItemsSold>55</NumberOfItemsSold>
       <TotalRevenue>12000</TotalRevenue>
   </day>
   <day>
       <DateOfSale>3.11.2021
       <SalesNumber>5</SalesNumber>
       <NumberOfItemsSold>18</NumberOfItemsSold>
       <TotalRevenue>2700</TotalRevenue>
   </day>
   <day>
       <DateOfSale>4.11.2021
       <SalesNumber>20</SalesNumber>
       <NumberOfItemsSold>70</NumberOfItemsSold>
       <TotalRevenue>24000</TotalRevenue>
   </day>
   <day>
       <DateOfSale>5.11.2021
       <SalesNumber>15</SalesNumber>
       <NumberOfItemsSold>60</NumberOfItemsSold>
       <TotalRevenue>19000</TotalRevenue>
   </day>
```

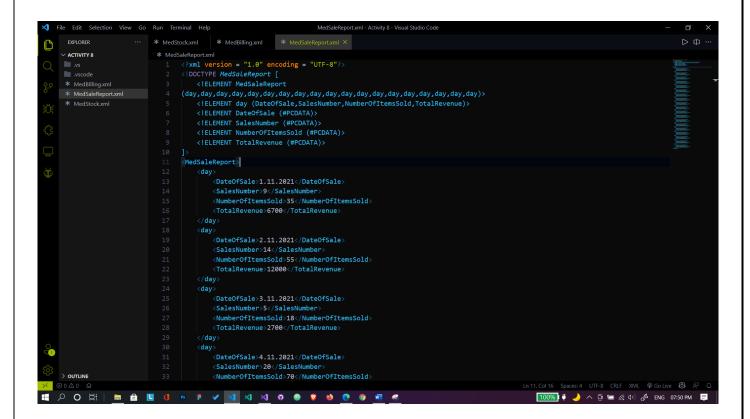
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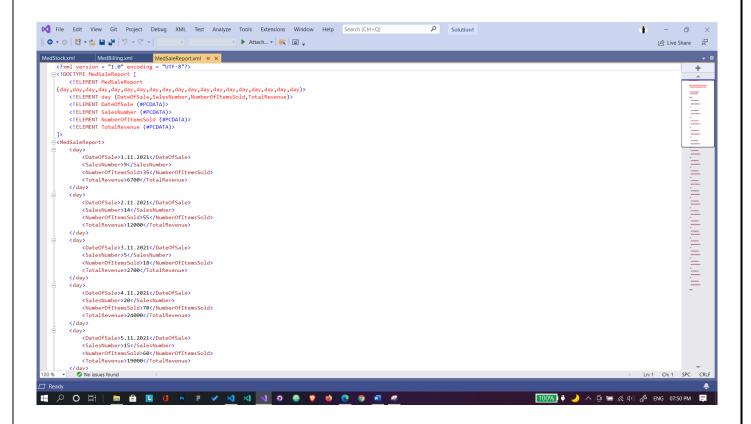
```
<day>
   <DateOfSale>6.11.2021
   <SalesNumber>30</SalesNumber>
   <NumberOfItemsSold>150</NumberOfItemsSold>
   <TotalRevenue>43000</TotalRevenue>
</day>
<day>
   <DateOfSale>7.11.2021
   <SalesNumber>8</SalesNumber>
   <NumberOfItemsSold>17</NumberOfItemsSold>
   <TotalRevenue>5000</TotalRevenue>
</day>
<day>
   <DateOfSale>8.11.2021
   <SalesNumber>25</SalesNumber>
   <NumberOfItemsSold>40</NumberOfItemsSold>
   <TotalRevenue>19500</TotalRevenue>
</day>
<day>
   <DateOfSale>9.11.2021
   <SalesNumber>14</SalesNumber>
   <NumberOfItemsSold>22</NumberOfItemsSold>
   <TotalRevenue>4700</TotalRevenue>
</day>
<day>
   <DateOfSale>10.11.2021
   <SalesNumber>5</SalesNumber>
   <NumberOfItemsSold>9</NumberOfItemsSold>
   <TotalRevenue>1700</TotalRevenue>
</day>
<day>
   <DateOfSale>11.11.2021
   <SalesNumber>17</SalesNumber>
   <NumberOfItemsSold>21</NumberOfItemsSold>
   <TotalRevenue>6000</TotalRevenue>
</day>
<day>
   <DateOfSale>12.11.2021
   <SalesNumber>26</SalesNumber>
   <NumberOfItemsSold>190</NumberOfItemsSold>
   <TotalRevenue>79000</TotalRevenue>
</day>
<day>
   <DateOfSale>13.11.2021
```

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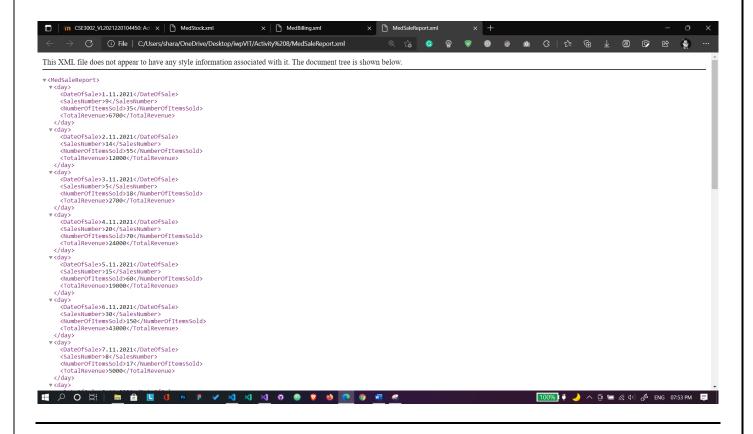
```
<SalesNumber>20</SalesNumber>
       <NumberOfItemsSold>43</NumberOfItemsSold>
       <TotalRevenue>9000</TotalRevenue>
   </day>
   <day>
       <DateOfSale>14.11.2021
       <SalesNumber>25</SalesNumber>
       <NumberOfItemsSold>33</NumberOfItemsSold>
       <TotalRevenue>29000</TotalRevenue>
   </day>
   <day>
       <DateOfSale>15.11.2021
       <SalesNumber>40</SalesNumber>
       <NumberOfItemsSold>120</NumberOfItemsSold>
       <TotalRevenue>32000</TotalRevenue>
   </day>
   <day>
       <DateOfSale>16.11.2021
       <SalesNumber>31</SalesNumber>
       <NumberOfItemsSold>53</NumberOfItemsSold>
       <TotalRevenue>82400</TotalRevenue>
   </day>
   <day>
       <DateOfSale>17.11.2021
       <SalesNumber>15</SalesNumber>
       <NumberOfItemsSold>28</NumberOfItemsSold>
       <TotalRevenue>18900</TotalRevenue>
   </day>
   <day>
       <DateOfSale>18.11.2021
       <SalesNumber>24</SalesNumber>
       <NumberOfItemsSold>40</NumberOfItemsSold>
       <TotalRevenue>44000</TotalRevenue>
   </day>
   <day>
       <DateOfSale>19.11.2021
       <SalesNumber>18</SalesNumber>
       <NumberOfItemsSold>27</NumberOfItemsSold>
       <TotalRevenue>36000</TotalRevenue>
   </day>
</MedSaleReport>
```

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Validation

The files above have their own corresponding DTD, and I'm checking their validation at an online xml validator. Posted the screenshots of the results below:

MedStock.xml

```
XML data to validate
                       1 <?xml version = "1.0" encoding = "UTF-8"?>
                      2 < IDOCTYPE MedStore [
                                               <!FLEMENT MedStore
                      4 (item, item, ite
                                        <!ELEMENT item (med_name,med_cost,med_stock,expiry_date)>
                                         <!ELEMENT med_name (#PCDATA)>
                                           <!ELEMENT med_cost (#PCDATA)>
                                           <!ELEMENT med_stock (#PCDATA)>
                     8
                                              <!ELEMENT expiry_date (#PCDATA)>
                     9
                  10 ]>
                  11 <MedStore>
                                             <item>
                                                                       <med name>Paracetamol</med name>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Validate
                                                                                                                                                                                                                                                             Document Valid
```

MedBilling.xml

```
XML data to validate
                    1 <?xml version = "1.0" encoding = "UTF-8"?>
                    2 <!DOCTYPE MedBilling [
                                       <!ELEMENT MedBilling
                   4 (order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,order,ord
                                     <!ELEMENT order (med_number,total_items,total_price)>
                                         <!ELEMENT med number (#PCDATA)>
                                        <!ELEMENT total_items (#PCDATA)>
                                       <!ELEMENT total_price (#PCDATA)>
                   9]>
                10 <MedBilling>
                                         <order>
                12
                                                               <med number>1</med number>
                                                               <total items>6 (Paracetamol - 3, Benadryl - 1, Adderall - 2)</total items>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Validate
                                                                                                                                                                                                                                      Document Valid
```

MedSaleReport.xml

```
XML data to validate
   1 <?xml version = "1.0" encoding = "UTF-8"?>
   2 <!DOCTYPE MedSaleReport [
       <!ELEMENT MedSaleReport
   <!ELEMENT day (DateOfSale,SalesNumber,NumberOfItemsSold,TotalRevenue)>
      <!ELEMENT DateOfSale (#PCDATA)>
      <!ELEMENT SalesNumber (#PCDATA)>
      <!ELEMENT NumberOfItemsSold (#PCDATA)>
   9
      <!ELEMENT TotalRevenue (#PCDATA)>
   10 ]>
   11 <MedSaleReport>
   12
           <DateOfSale>1.11.2021
                                                                                     Validate
                                        Document Valid
```