

XML Assignment

1. (50pts.) Consider the XML document below shown in Figure 1, stored in `site.xml`

```
<site id="w123" name="website 1" description="Lorem ipsum">
  <views>
    <view id="p123" name="page 1">
      <description>Lorem ipsum</description>
      <component ref="wg123">
      <component ref="wg1234">
    </view>
    <view id="p234" name="page 2">
      <description>Lorem ipsum</description>
      <component ref="wg234">
      <component ref="wg2345">
      <component ref="wg123">
    </view>
  </views>
  <components>
    <component id="wg123" type="TEXT">
      <text>Lorem ipsum</text>
    </component>
    <component id="wg1234" type="IMG"
      src="image-1234.jpg"/>
    <component id="wg234" type="YOUTUBE"
      url="youtube.com/1234"/>
    <component id="wg2345" type="BUTTON"
      label="Click Me"/>
  </components>
</site>
```

Figure. 1 - Input XML document `site.xml`

Write a Java program called `transformer.java`, and an XSLT document `site2website.xsl`, that transforms the XML document above into the XML document called `website.xml` shown below in Figure 2. The Java program should be generic enough to use any input XML document, input XSLT document, and the name of the output document. Do not write the program specifically for this question. The Java code, input XSL and output document files should all be in the same directory. The Java code should be in a package called `xml.assignment`. Provide scripts `question1.bat` and `question1.sh` that compile and execute your program. Write the scripts in the native scripting language of your OS. Do not assume any additional shells or plugins. Assume Java 1.7 or higher.

```
<website id="w123" name="website 1">
  <description>Lorem ipsum</description>
  <page id="p123" name="page 1">
    <description>Lorem ipsum</description>
    <widget id="wg123" type="TEXT">
      <text>Lorem ipsum</text>
    </widget>
```

```

        <widget id="wg1234" type="img" src="image-1234.jpg"/>
    </page>
    <page id="p234" name="page 2">
        <description>Lorem ipsum</description>
        <widget id="wg234" type="YOUTUBE"
            url="youtube.com/1234"/>
        <widget id="wg2345" type="BUTTON" label="Click Me"/>
        <widget id="wg123" type="TEXT">
            <text>Lorem ipsum</text>
        </widget>
    </page>
</website>

```

Figure 2 - Output XML document **website.xml**

2. (50pts.) Consider the output XML document from the previous question shown in Figure 2. Using the same Java transformer from the previous question, write an XSLT document called **websiteXml2Html.xsl** that transforms the output XML document into an HTML document **website.html** that renders as shown below in Figure 3. Heading sizes are shown in parenthesis for reference and should not be part of the final HTML document. An HTML ordered list should be used to list the pages. Each widget data should be rendered in a table row as shown. Provide script files **question2.bat** and **question2.sh** that compile and execute your program. Write the scripts in the native scripting language of your OS. Do not assume any additional shells or plugins. Assume Java 1.7 or higher.

Website (h1)

Pages (h2)

1. page 1, Lorem ipsum
2. page 2, Lorem ipsum

Widgets (h2)

id	type	text	src	url	label
wg123	TEXT	Lorem ipsum			
wg1234	IMG		image-1234.jpg		
wg234	YOUTUBE			youtube.com/1234	
wg2345	BUTTON				Click Me

Figure 3 - Output HTML document **website.html**

Deliverables

In blackboard submit a single ZIP file that contains the files listed below. Use your last name for the name of your zip file. For instance, my ZIP file would be called **annunziato.zip**

1. **transform.java**
2. **site.xml**
3. **website.xml**
4. **website.html**
5. **site2website.xsl**
6. **websiteXml2Html.xsl**
7. **question1.bat** or **question1.sh**
8. **question2.bat** or **question2.sh**

question1 - batch files should contain the following

```
rm website.xml
```

```
javac transform.java
```

```
java transform site2website.xsl site.xml website.xml
```

question2 - batch files should contain the following

```
rm website.html
```

```
javac transform.java
```

```
java transform websiteXml2Html.xsl website.xml website.html
```

