

**Location Paths [XPath §2]**  
Optional ‘/’, zero or more **location steps**, separated by ‘/’

**Location Steps [XPath §2.1]**  
Axis specifier, node test, zero or more predicates

**Axis Specifiers [XPath §2.2]**

ancestor::	following-sibling::
ancestor-or-self::	namespace::
attribute::	parent::
child::	preceding::
descendant::	preceding-sibling::
descendant-or-self::	self::
following::	

**Node Tests [XPath §2.3]**

<i>name</i>	node()
<i>URI:name</i>	text()
<i>prefix:name</i>	comment()
<i>*</i>	processing-instruction()
<i>prefix:*</i>	processing-instruction( <i>literal</i> )

Abbreviated Syntax for Location Paths	
(nothing)	child::
@	attribute::
//	/descendant-or-self::node()/
.	self::node()
..	parent::node()
/	Node tree root

**Predicate [XPath §2.4]**  
*[expr]*

**Variable Reference [XPath §3.7]**  
*\$qname*

**Literal Result Elements [§7.1.1]**  
Any element not in the xsl: namespace and not an extension element

**XSLT**  
<http://www.w3.org/TR/xslt>

**XPath**  
<http://www.w3.org/TR/xpath>

**XSL-List**  
<http://www.mulberrytech.com/xsl/xsl-list/>

**XPath Operators**

Parentheses may be used for grouping.

**Node-sets [XPath §3.3]**  
| *[expr]* / //

**Booleans [XPath §3.4]**  
<=, <, >=, > =, != and or

**Numbers [XPath §3.5]**  
*-expr* \*, div, mod +, -

**XPath Core Function Library**

**Node Set Functions [XPath §4.1]**

<i>number</i>	<b>last()</b>
<i>number</i>	<b>position()</b>
<i>number</i>	<b>count</b> ( <i>node-set</i> )
<i>node-set</i>	<b>id</b> ( <i>object</i> )
<i>string</i>	<b>local-name</b> ( <i>node-set?</i> )
<i>string</i>	<b>namespace-uri</b> ( <i>node-set?</i> )
<i>string</i>	<b>name</b> ( <i>node-set?</i> )

**String Functions [XPath §4.2]**

<i>string</i>	<b>string</b> ( <i>object?</i> )
<i>string</i>	<b>concat</b> ( <i>string</i> , <i>string</i> , <i>string</i> *)
<i>boolean</i>	<b>starts-with</b> ( <i>string</i> , <i>string</i> )
<i>boolean</i>	<b>contains</b> ( <i>string</i> , <i>string</i> )
<i>string</i>	<b>substring-before</b> ( <i>string</i> , <i>string</i> )
<i>string</i>	<b>substring-after</b> ( <i>string</i> , <i>string</i> )
<i>string</i>	<b>substring</b> ( <i>string</i> , <i>number</i> , <i>number?</i> )
<i>number</i>	<b>string-length</b> ( <i>string?</i> )
<i>string</i>	<b>normalize-space</b> ( <i>string?</i> )
<i>string</i>	<b>translate</b> ( <i>string</i> , <i>string</i> , <i>string</i> )

**Boolean Functions [XPath §4.3]**

<i>boolean</i>	<b>boolean</b> ( <i>object</i> )
<i>boolean</i>	<b>not</b> ( <i>object</i> )
<i>boolean</i>	<b>true</b> ()
<i>boolean</i>	<b>false</b> ()
<i>boolean</i>	<b>lang</b> ( <i>string</i> )

**Number Functions [XPath §4.4]**

<i>number</i>	<b>number</b> ( <i>object?</i> )
<i>number</i>	<b>sum</b> ( <i>node-set</i> )
<i>number</i>	<b>floor</b> ( <i>number</i> )
<i>number</i>	<b>ceiling</b> ( <i>number</i> )
<i>number</i>	<b>round</b> ( <i>number</i> )

# XSLT and XPath Quick Reference

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**XSLT Functions [§12, §15]**

<i>node-set</i>	<b>document</b> ( <i>object</i> , <i>node-set?</i> )
<i>node-set</i>	<b>key</b> ( <i>string</i> , <i>object</i> )
<i>string</i>	<b>format-number</b> ( <i>number</i> , <i>string</i> , <i>string?</i> )
<i>node-set</i>	<b>current</b> ()
<i>string</i>	<b>unparsed-entity-uri</b> ( <i>string</i> )
<i>string</i>	<b>generate-id</b> ( <i>node-set?</i> )
<i>object</i>	<b>system-property</b> ( <i>string</i> )
<i>boolean</i>	<b>element-available</b> ( <i>string</i> )
<i>boolean</i>	<b>function-available</b> ( <i>string</i> )

**Node Types [XPath §5]**

Root	Processing Instruction
Element	Comment
Attribute	Text
Namespace	

Object Types [§11.1, XPath §1]	
boolean	True or false
number	Floating-point number
string	UCS characters
node-set	Set of nodes selected by a path
Result tree fragment	XSLT only. Fragment of the result tree

**Expression Context [§4, XPath §1]**

**Context node** (a node)  
**Context position** (a number)  
**Context size** (a number)  
**Variable bindings** in scope  
**Namespace declarations** in scope  
**Function library**

**Built-in Template Rules [§5.8]**

```
<xsl:template match="*/">  
  <xsl:apply-templates/>  
</xsl:template>  
  
<xsl:template match="*/" mode="m">  
  <xsl:apply-templates mode="m"/>  
</xsl:template>  
  
<xsl:template match="text()|@*">  
  <xsl:value-of select="."/>  
</xsl:template>  
  
<xsl:template  
  match="processing-instruction()|comment()"/>
```

Built-in template rule for namespaces is to do nothing

XSLT Elements

Stylesheet Element [§2.2]

```
<xsl:stylesheet version="1.0" id="{id}"
  extension-element-prefixes="{tokens}"
  exclude-result-prefixes="{tokens}"
  xmlns:xsl="http://www.w3.org/1999/XSL/
  Transform"> xsl:import*, top-level elements
</xsl:stylesheet>
```

xsl:transform is a synonym for xsl:stylesheet

Combining Stylesheets [§2.6]

```
<xsl:include href="{uri-reference}"/>

<xsl:import href="{uri-reference}"/>
```

Whitespace Stripping [§3.4]

```
<xsl:strip-space elements="{tokens}"/>

<xsl:preserve-space elements="{tokens}"/>
```

Defining Template Rules [§5.3]

```
<xsl:template match="{pattern}" name="{qname}"
  priority="{number}" mode="{qname}">
  xsl:param* followed by text, literal result elements
  and/or XSL elements </xsl:template>
```

Applying Template Rules [§5.4]

```
<xsl:apply-templates select="{node-set-exp}"
  mode="{qname}"/>
<xsl:apply-templates select="{node-set-exp}"
  mode="{qname}">
  (xsl:sort | xsl:with-param)* </xsl:apply-templates>
```

Overriding Template Rules [§5.6]

```
<xsl:apply-imports/>
```

Named Templates [§6]

```
<xsl:call-template name="{qname}"/>
<xsl:call-template name="{qname}">
  xsl:with-param* </xsl:call-template>
```

Namespace Alias [§7.1.1]

```
<xsl:namespace-alias result-prefix="{prefix}#default"
  stylesheet-prefix="{prefix}#default"/>
```

Creating Elements [§7.1.2]

```
<xsl:element name="{qname}"
  namespace="{uri-reference}"
  use-attribute-sets="{qnames}">...</xsl:element>
```

Creating Attributes [§7.1.3]

```
<xsl:attribute name="{qname}"
  namespace="{uri-reference}">...</xsl:attribute>
```

Named Attribute Sets [§7.1.4]

```
<xsl:attribute-set name="{qname}"
  use-attribute-sets="{qnames}">
  xsl:attribute* </xsl:attribute-set>
```

Creating Text [§7.2]

```
<xsl:text disable-output-escaping="{yes|no}"
  #PCDATA </xsl:text>
```

Processing Instructions [§7.3]

```
<xsl:processing-instruction name="{ncname}">
  ...</xsl:processing-instruction>
```

Creating Comments [§7.4]

```
<xsl:comment>...</xsl:comment>
```

Copying [§7.5]

```
<xsl:copy use-attribute-sets="{qnames}">
  ...</xsl:copy>
```

Generating Text [§7.6.1]

```
<xsl:value-of select="{string-expr}"
  disable-output-escaping="{yes|no}"/>
```

Attribute Value Templates [§7.6.2]

```
<element attribute="{expr}"/>
```

Numbering [§7.7]

```
<xsl:number level="{single|multiple|any}"
  count="{pattern}" from="{pattern}"
  value="{number-expr}" format="{string}"
  lang="{nmtoken}"
  letter-value="{alphabetic|traditional}"
  grouping-separator="{char}"
  grouping-size="{number}"/>
```

Repetition [§8]

```
<xsl:for-each select="{node-set-exp}">
  xsl:sort*, ...</xsl:for-each>
```

Conditional Processing [§9]

```
<xsl:if test="{boolean-expr}">...</xsl:if>

<xsl:choose>
  <xsl:when test="{expr}">...</xsl:when>+
  <xsl:otherwise>...</xsl:otherwise>?
</xsl:choose>
```

Sorting [§10]

```
<xsl:sort select="{string-expr}" lang="{nmtoken}"
  data-type="{text|number|qname-but-not-
  ncname}" order="{ascending|descending}"
  case-order="{upper-first|lower-first}"/>
```

Variables and Parameters [§11]

```
<xsl:variable name="{qname}" select="{expr}"/>
<xsl:variable name="{qname}">...</xsl:variable>

<xsl:param name="{qname}" select="{expr}"/>
<xsl:param name="{qname}">...</xsl:param>
```

Using Values [§11.3]

```
<xsl:copy-of select="{expr}"/>
```

Passing Parameters [§11.6]

```
<xsl:with-param name="{expr}" select="{expr}"/>
<xsl:with-param name="{expr}">...</xsl:with-param>
```

Keys [§12.2]

```
<xsl:key name="{qname}" match="{pattern}"
  use="{expr}"/>
```

Number Formatting [§12.3]

```
<xsl:decimal-format name="{qname}"
  decimal-separator="{char}"
  grouping-separator="{char}" infinity="{string}"
  minus-sign="{char}" NaN="{string}"
  percent="{char}" per-mille="{char}"
  zero-digit="{char}" digit="{char}"
  pattern-separator="{char}"/>
```

Messages [§13]

```
<xsl:message terminate="{yes|no}">
  ...</xsl:message>
```

Fallback [§15]

```
<xsl:fallback>...</xsl:fallback>
```

Output [§16]

```
<xsl:output
  method="{xml|html|text|qname-but-not-ncname}"
  version="{nmtoken}" encoding="{string}"
  omit-xml-declaration="{yes|no}"
  doctype-public="{string}" doctype-system="{string}"
  standalone="{yes|no}" indent="{yes|no}"
  cdata-section-elements="{qnames}"
  media-type="{string}"/>
```

Key

xsl:stylesheet	Element
version=	Required attribute
version=	Optional attribute
{expr}	Attribute value template. Text between any { and } is evaluated as an expression. Attribute value must evaluate to indicated attribute type.
...	Anything allowed in a template
	Separates alternative values
?	Zero or one occurrences
*	Zero or more occurrences
+	One or more occurrences
#PCDATA	Character data

Attribute Value Types

1.0	Literal value
boolean-expr	Expression returning boolean value
char	Single character
expr	Expression
id	XML name used as identifier
ncname	XML name not containing a colon (:)
node-set-expr	Expression returning a node set
number-expr	Expression returning a number
pattern	XSLT pattern
prefix	Namespace prefix
qname	Namespace-qualified XML name comprising local part and optional prefix
qname-but-not-ncname	Namespace-qualified name comprising local part and prefix
token	Meaning varies with context. See Rec.
uri-reference	Reference to Universal Resource Identifier

