**XPath Cheat Sheet**

### XPath Formula

```
//tag[@attribute='value']
```

**Example:**
```
//div[@class='round-button']
```

### Syntax

**Absolute XPath:** Starts at the top of the DOM, or a direct descendant (child)
```
/ // Relative XPath: Looks anywhere on the page. Starts at any element on the page with this tag, or an indirect descendant
```

**div** Example of an element tag
```
@ Attributes
```

**Predicates - Used to find a specific node or a node with a specific value**
```
@ Specific attribute value to search for:
- Uses the node that is in context
- Selects the parent of the current node
```

### XPath Axes

- **Ancestor:** Selects all ancestors of the current node
- **Descendant:** Selects all children, grand-children etc. of the current node
- **Parent:** Only the parent of the current node
- **Siblings:** Selects all siblings after the current node
- **Preceding Sibling:** Selects all siblings before the current node

**Examples:**
```
//button[@id='btn']/parent::div // Find div parent of button element with id "btn"
//button[@id='btn']/following-sibling::label // Find label sibling that is located after button element with id "btn"
//button[@id='btn']/preceding-sibling::label // Find label sibling that is located before button element with id "btn"
```

### Finding Elements Relative to Other Elements

- **//div/[id='row2']/input[@name='Add']** // The same as `div[@id='row2']/input[@name='Add']`

### XPath Operators

- **Using "OR"**
  ```
  //button[@name='Add' or @name='Remove']
  ```

- **Using "AND"**
  ```
  //button[@id='btn' and @class='btn' and @style=''] and (@name='Add')
  ```

### XPath Wildcards

- **//*[class] - Element with any tag that has 'class' attribute**
- **//*[@attribute] - Any button element where any attribute has value 'btn'**
- **//div[@] - Div element that has any attribute**

### Functions

- **Text Function**
  - `<div>{{text}}</div>`
  - `{{text}}` Full element text

- **Contains Function**
  - `<div class="contains"/>`
  - `contains` Function

- **StartsWith Function**
  - `<div class="starts-with"/>` Starts With: Function
  - `starts-with` Function
  - `starts-with` Function

### Finding Elements Relative to Other Elements

- **//div[@id='row']/input** - Find div element that has input child
  - `<input/>` // The same as `div[@id='row']/input`

### Selecting Several Paths

- **Use the vertical bar to combine two or more XPath expressions into one**
  - `//button[@class='row'] //input[@class='form-control']`
  - `//input[@class='form-control'] //button[@class='row']`

### SVG Elements

To get to SVG element, use wildcard in place of tag name, and use name function for the SVG element tag
```
//svg[@name='rect'] //name='rect' and @transform
```

- `<rect transform='rotate(45,0)'/>`