Total links count-
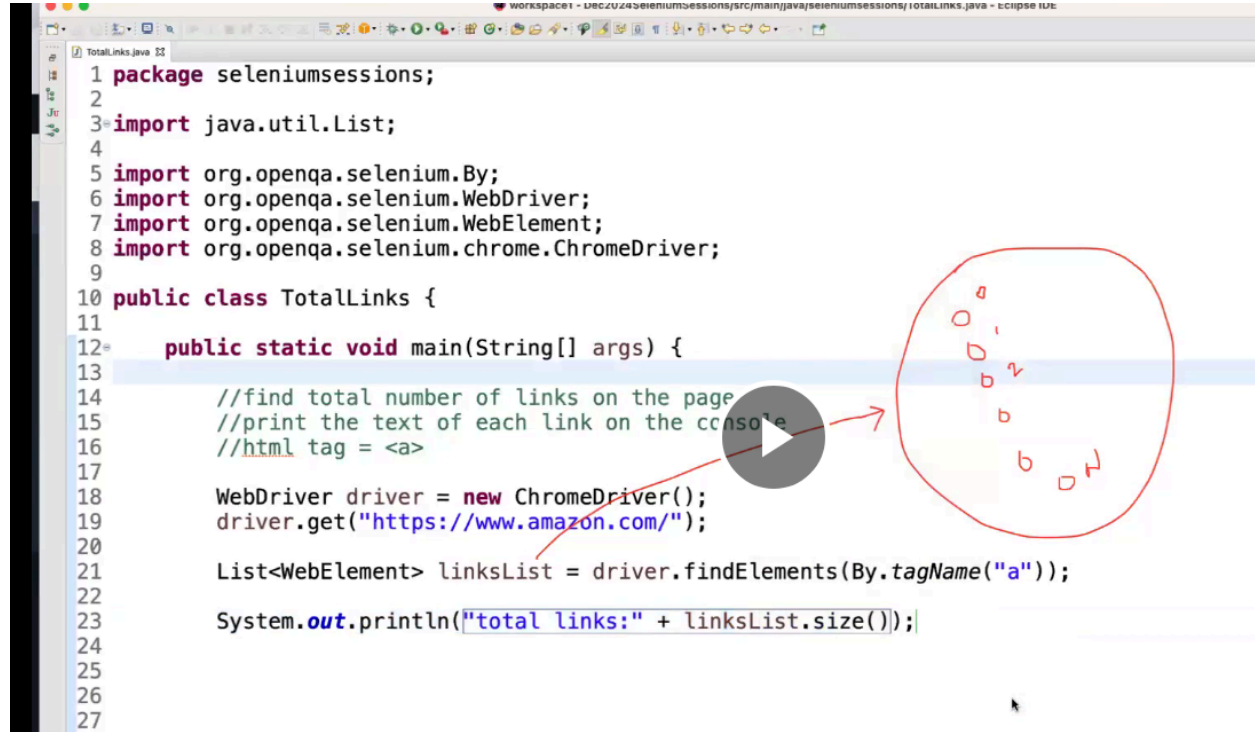
```java
package seleniumsessions;

import java.util.List;

import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.chrome.ChromeDriver;

public class TotalLinks {

    public static void main(String[] args) {

        //find total number of links on the page
        //print the text of each link on the console
        //html tag = <a>

        WebDriver driver = new ChromeDriver();
        driver.get("https://www.amazon.com/");

        List<WebElement> linksList = driver.findElements(By.tagName("a"));

        System.out.println("total links:" + linksList.size());
```

Print all the names of the link
get(index) returns web element.
To get the value, use get text method.

```java
        //index loop:
        for(int i=0; i<linksList.size(); i++) {
            String text = linksList.get(i).getText();
            System.out.println(text);
        }
```

Try printing the web element - HW

```
38
39          //try printing the web element.
40⊖         for (int i = 0; i < linkslist.size(); i++) {
41              System.out.println(linkslist);
42          }
43          //[[[ChromeDriver: chrome on windows (dc8b767e1139d1b15637add700d36c95)]
44  //      -> tag name: a], [[ChromeDriver:
45  //          chrome on windows (dc8b767e1139d1b15637add700d36c95)] -> tag name: a]]
46  //      [[[ChromeDriver: chrome on windows (dc8b767e1139d1b15637add700d36c95)] ->
47  //      tag name: a], [[ChromeDriver: chrome on windows
48  //                      (dc8b767e1139d1b15637add700d36c95)] -> tag name: a]]
49
```

```
60
61          //print webelement using for each.|
62⊖         for (WebElement e : linkslist) {
63              System.out.println(e);
64          }
65
66  //      [[ChromeDriver: chrome on windows (103f4908a8889bb658dfc88d4edb2029)] ->
67  //      tag name: a]
68  //              [[ChromeDriver: chrome on windows
69  //              (103f4908a8889bb658dfc88d4edb2029)] -> tag name: a]
70
```

Print index and the value -

```
24
25          //index loop:
26          for(int i=0; i<linksList.size(); i++) {
27              String text = linksList.get(i).getText();
28              System.out.println(i+" = "+text);
29          }
//              0=Conditions of Use
    //                      1=Privacy Policy
```

Print links if text is not empty-

```
24
25        // index loop:
26        for (int i = 0; i < linksList.size(); i++) {
27            String text = linksList.get(i).getText();
28            if (text.length() != 0) {
29                System.out.println(i + " = " + text);
30            }
31
```

Remove index and print-

```
24
25        // index loop:
26        for (int i = 0; i < linksList.size(); i++) {
27            String text = linksList.get(i).getText();
28            if (text.length() != 0) {
29                System.out.println(text);
30            }
31        }
```

Using for each loop-

```
32
33        System.out.println("------------------");
34
35        for (WebElement e : linksList) {
36            String text = e.getText();
37            if (text.length() != 0) {
38                System.out.println(text);
39            }
40        }
```

Change to flipkart and it works-

```
16        // html tag - <a>
17
18        WebDriver driver = new ChromeDriver();
19        driver.get("https://www.flipkart.com/");
```

Capture all images-

```java
package seleniumsessions;

import java.util.List;

import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.chrome.ChromeDriver;

public class TotalImages {

    public static void main(String[] args) {
        WebDriver driver = new ChromeDriver();
        driver.get("https://www.flipkart.com/");

        List<WebElement> imagesList = driver.findElements(By.tagName("img"));

        System.out.println("total images:" + imagesList.size());
    }
}
```

Get the alt attribute and source attribute value-
Changed website to amazon.

```java
package seleniumsessions;

import java.util.List;

import org.openqa.selenium.By;
import org.openqa.selenium.WebDriver;
import org.openqa.selenium.WebElement;
import org.openqa.selenium.chrome.ChromeDriver;

public class TotalImages {

    public static void main(String[] args) {
        WebDriver driver = new ChromeDriver();
        driver.get("https://www.amazon.com/");

        List<WebElement> imagesList = driver.findElements(By.tagName("img"));

        System.out.println("total images:" + imagesList.size());

        for(WebElement e : imagesList) {
            String altVal = e.getDomAttribute("alt");
            String srcVal = e.getDomAttribute("src");

            System.out.println(altVal + " : " + srcVal);
        }
    }
}
```

These are known as web scraping.

My code -

```java
 1 package seleniumbatch;
 2
 3 import java.util.List;□
 9
10 public class TotalImages2 {
11
12     public static void main(String[] args) {
13         WebDriver driver = new ChromeDriver();
14         driver.get("https://www.amazon.com/");
15
16         //captures all images.
17         List<WebElement> imagesList = driver.findElements(By.tagName("img"));
18
19         System.out.println("total images:" + imagesList.size());
20
21         for(WebElement e : imagesList) {
22             //web scraping
23             //Get the alt attribute and source attribute value-
24             String altVal = e.getDomAttribute("alt");
25             String srcVal = e.getDomAttribute("src");
26
27             System.out.println(altVal + " : " + altVal);
28             System.out.println(srcVal + " : " + srcVal);
29
30             // :
31             //https://fls-na.amazon.com/1/oc-csi/1/OP/requestId=ARV6Q9RHMCD349MWKBRD&js=1 :
32             //https://fls-na.amazon.com/1/oc-csi/1/OP/requestId=ARV6Q9RHMCD349MWKBRD&js=1
33
34         }
35
```

```
33
34                     }
35
36
37             }
38
39 }
40
```

Find elements also work with every by locator.
Get all links in right hand side by their class name-

```java
1 package seleniumsessions;
2
3 import java.util.List;
4
5 import org.openqa.selenium.By;
6 import org.openqa.selenium.WebDriver;
7 import org.openqa.selenium.WebElement;
8 import org.openqa.selenium.chrome.ChromeDriver;
9
10 public class TotalMenuLinks {
11
12     public static void main(String[] args) {
13         WebDriver driver = new ChromeDriver();
14         driver.get("https://naveenautomationlabs.com/opencart/index.php?route=account/login");
15
16         List<WebElement> menuLinksList = driver.findElements(By.className("list-group-item"));
17         System.out.println(menuLinksList.size());
18
19
20         for(WebElement e : menuLinksList) {
21             String text = e.getText();
22             System.out.println(text);
23         }
24
25     }
26
```

When we want to verify in console use the class name with dot-

Click on forgot password link-

```
18
19
20          for(WebElement e : menuLinksList) {
21              String text = e.getText();
22              System.out.println(text);
23                  if(text.equals("Forgotten Password")) {
24                      e.click();
25                      break;
26                  }
27          }
28
```

Generic method for find elements and iterating over them-

```
36°     public static List<WebElement> getElements(By locator) {
37          return driver.findElements(locator);
38      }
```

Size count method-

```
36°     public static int getElementsCount(By locator) {
37          int eleCount = getElements(locator).size();
38          System.out.println("element count ==>" + eleCount);
39          return eleCount;
40      }
```

Updated code-

```
   J TotalLinks.java   J TotalImages.java   J *TotalMenuLinks.java ⊠
 9
10 public class TotalMenuLinks {
11
12      static WebDriver driver;
13
14⊖     public static void main(String[] args) {
15          driver = new ChromeDriver();
16          driver.get("https://naveenautomationlabs.com/opencart/index.php?route=account/login");
17
18 //      List<WebElement> menuLinksList = driver.findElements(By.className("list-group-item"));
19 //      System.out.println(menuLinksList.size());
20 //
21 //
22 //      for(WebElement e : menuLinksList) {
23 //          String text = e.getText();
24 //          System.out.println(text);
25 //              if(text.equals("Forgotten Password")) {
26 //                  e.click();
27 //                  break;
28 //              }
29 //      }
30
31          By menuLinks = By.className("list-group-item");
32          getElements(menuLinks);
```

Meaning of the line -

```
58
59          getElements(menuLinks); //gets the locator for all the links.
```

Updated code-

```
30
31          By menuLinks = By.className("list-group-item");
32
33          if(getElementsCount(menuLinks) == 13) {
34              System.out.println("menu links count is correct -- PASS");
35          }
36          else {
37              System.out.println("menu links count is not correct -- FAIL");
38          }
39
40          getElements(menuLinks);
41
42      }
43
```

Util method created to capture all elements from list and store in our own array list-

```
44  public static List<String> getElementTextList(By locator) {
45      List<WebElement> eleList = getElements(locator);
46      List<String> eleTextList = new ArrayList<String>();// pc=0; []
47      for (WebElement e : eleList) {
48          String text = e.getText();
49          if (text.length() != 0) {
50              System.out.println(text);
51              eleTextList.add(text);
52          }
53      }
54      return eleTextList;
55  }
```

Validating if code works-

```
39
40      List<String> actMenuList = getElementTextList(menuLinks);
41
42      if(actMenuList.contains("My Account")) {
43          System.out.println("PASS");
44      }
45      if(actMenuList.contains("Reward Points")) {
46          System.out.println("PASS");
47      }
48
```
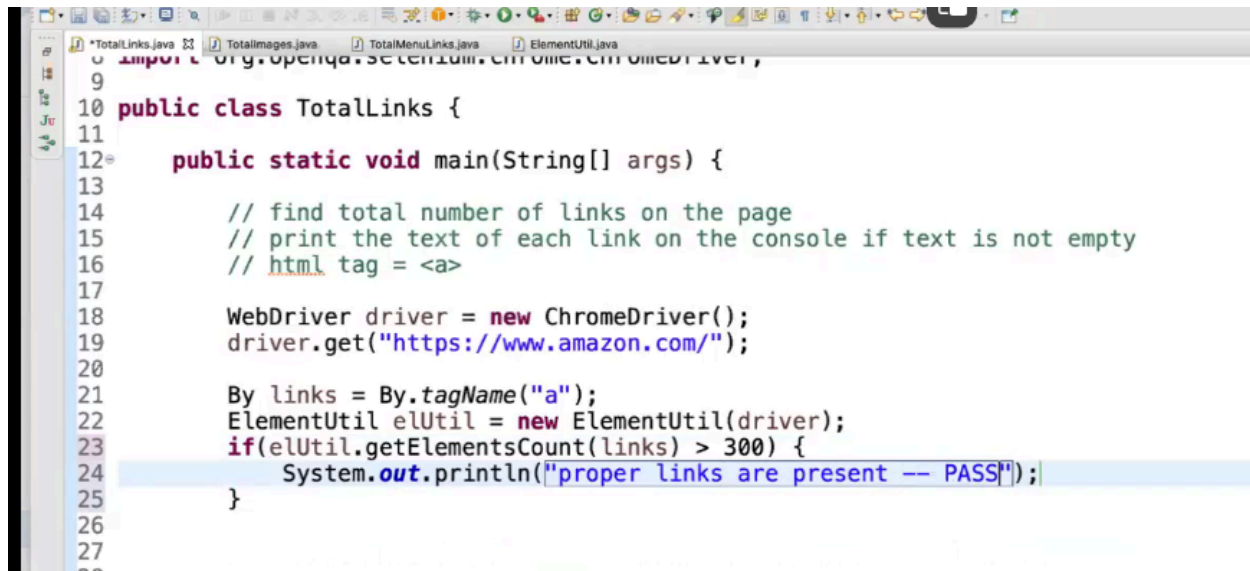
Move to element utils-

```
68
69    //********************* findElements Utils***************//
70°   public List<String> getElementTextList(By locator) {
71        List<WebElement> eleList = getElements(locator);
72        List<String> eleTextList = new ArrayList<String>();// pc=0; []
73        for (WebElement e : eleList) {
74            String text = e.getText();
75            if (text.length() != 0) {
76                System.out.println(text);
77                eleTextList.add(text);
78            }
79        }
80        return eleTextList;
81    }
82
83°   public int getElementsCount(By locator) {|
84        int eleCount = getElements(locator).size();
85        System.out.println("element count ==>" + eleCount);
86        return eleCount;
87    }
88
89°   public List<WebElement> getElements(By locator) {
90        return driver.findElements(locator);
91    }
92
```

Test our code with the find elements methods-

```
     *TotalLinks.java ⊠   TotalImages.java      TotalMenuLinks.java      ElementUtil.java
  9   import org.openqa.selenium.chrome.ChromeDriver;
 10   public class TotalLinks {
 11
 12°       public static void main(String[] args) {
 13
 14            // find total number of links on the page
 15            // print the text of each link on the console if text is not empty
 16            // html tag = <a>
 17
 18            WebDriver driver = new ChromeDriver();
 19            driver.get("https://www.amazon.com/");
 20
 21            By links = By.tagName("a");
 22            ElementUtil elUtil = new ElementUtil(driver);
 23            if(elUtil.getElementsCount(links) > 300) {
 24                System.out.println("proper links are present -- PASS");
 25            }
 26
 27
```

Change to flipkart-

Amazon blocked automation so hardly any links.

```
16        // html tag = <a>
17
18        WebDriver driver = new ChromeDriver();
19        driver.get("https://www.flipkart.com/");
20
```

//   element count ==>428
        //   proper links are present -- PASS

Call the other method also-

//check if corporate link present in footer then pass.
//PASS

```
28
29        List<String> linksTextList = elUtil.getElementTextList(links);
30        if(linksTextList.contains("Corporate Information")) {
31            System.out.println("PASS");
32        }
```