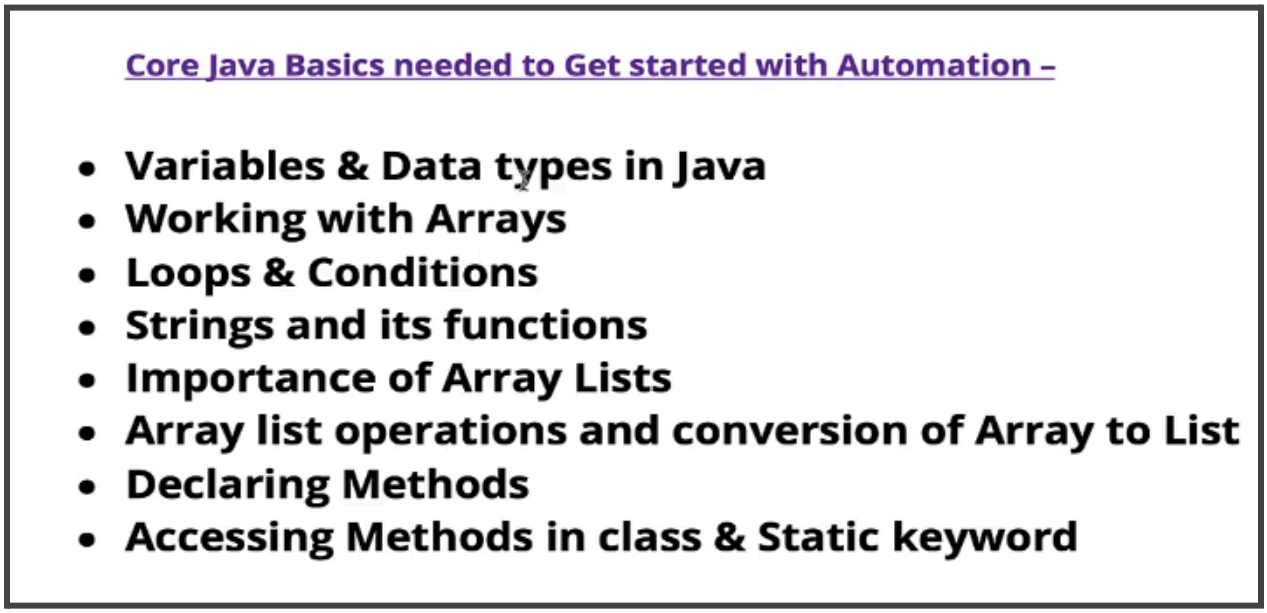
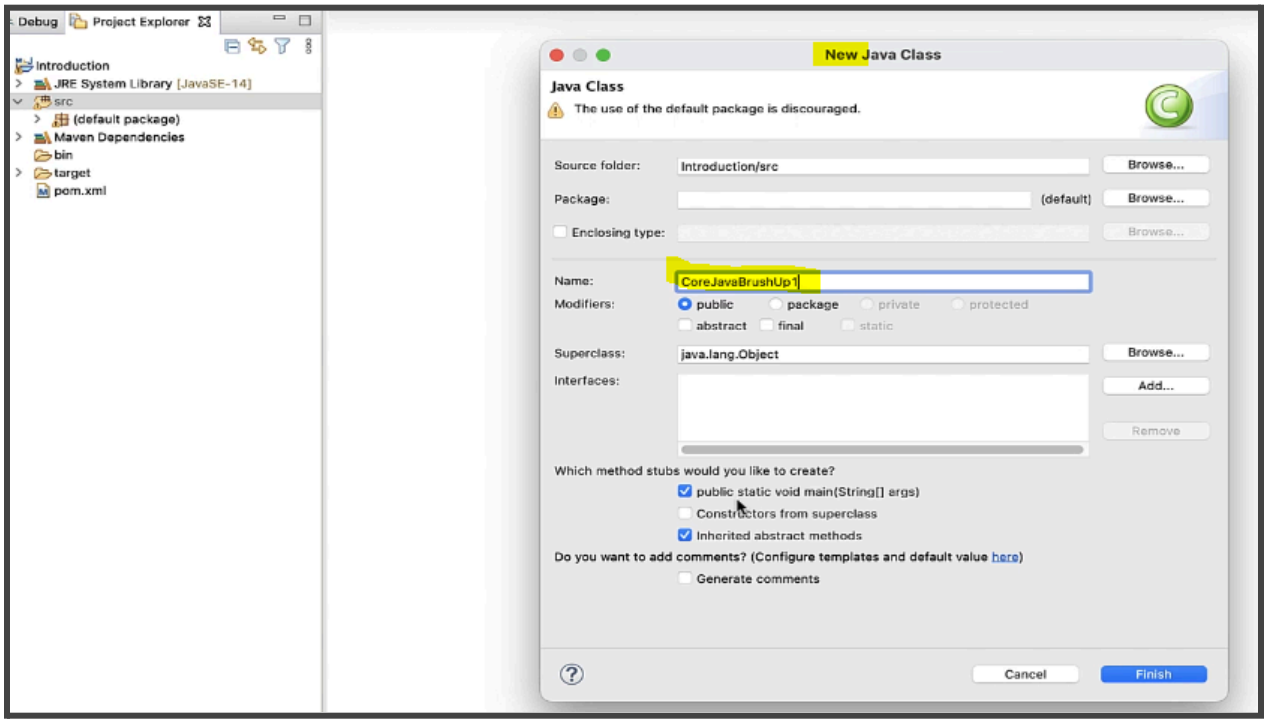
Java basics for selenium



1. Introduction to Java variables and Data types with examples



If some code is written outside main class then it won't execute.

- ☐ Create variable and store value inside that. Eg- store number 5 in variable. Tell java , what is type of that variable.
- ☐ So java supports different data types. Eg- Integer(premitive data type), string(non-primitive data type), char, double, boolean.

```java
public class CoreJavaBrushUp1 {

    public static void main(String[] args) {
        // TODO Auto-generated method stub


         int myNum = 5;
        String website =  "Rahul Shetty Academy";
        char letter = 'r';
        double dec = 5.99;
        boolean myCard = true;

        System.out.println(myNum+"is the value stored in the myNum variable");
        System.out.println(website);
```

- [ ] Print custom text 'System.Out.Println(myNum is the value stored in myNum variable). Mynum is variable & rest is custom text(collection of words which is string). So in java whenever you write string make sure to put double quote. So, it'll print string in output.

```java
System.out.println(myNum "is the value stored in the myNum variable");
```

- [ ] In java, you can't directly concatenate a variable & a string. Make sure to give '+' operator. It separates and identifies strings. If you don't give '+' operator then java can't pass your string. If you don't have any variable then do not give any '+' icon. '+' stands for concatenation here. But when you are mixing a variable with a string , java confuses.

```java
System.out.println(myNum+"is the value stored in the myNum variable");
```

```java
public class CoreJavaBrushUp1 {

    public static void main(String[] args) {
        // TODO Auto-generated method stub


         int myNum = 5;
        String website =  "Rahul Shetty Academy";
        char letter = 'r';
        double dec = 5.99;
        boolean myCard = true;

        System.out.println(myNum+"is the value stored in the myNum variable");
        System.out.println(website);
```

Console:-

```
5is the value stored in the myNum variable
Rahul Shetty Academy
```

2. What are Arrays in Java? How to initialize and retrieve the values of array

- Store more than 1 value in variable.
- Int[] arr (storing multiple integer values.
- Int [] arr = new (You given operator called new, you creating memory for all those values which you going to store in arr). If you want to store 5 integers in this variable.

- [ ]
```
int[]  arr = new int[5];
```
Here you declared an array and allocated memory for storing 5 elements.

```
//Arrays -
int[]  arr = new int[5];// 5, 10
arr[0] = 1;
arr[1] = 2;
arr[2]= 4;
arr[3]= 5;
arr[4]= 6;


int[] arr2 = {1,2,4,5,6};

System.out.println(arr2[0]);
```

- [ ] Use of For loop

```
int[]  arr = new int[5];
arr[0] = 1;
arr[1] = 2;
arr[2]= 4;
arr[3]= 5;
arr[4]= 6;

int[] arr2 = {1,2,4,5,6,7,8,9,10,122};

//for loop  arr.length - 5
for(int i = 0; i< arr.length; i++) //4
{

    System.out.println(arr[i]);
}

for (int i =0;i<arr2.length; i++)
{
    System.out.println(arr2[i]);
}
```

- [ ] Enhanced for loop. Another way to write below code.

```
String[] name = {"rahul", "shetty", "selenium"};

for(int i =0; i<name.length;i++)
{
    System.out.println(name[i]);
}
```

If want to print all values of name array then-
For (: name*(array name)*

```
for(y: name)
```
From array every time 1 value has to be picked out. Declare that element before name. Create another variable called ‘s’ and give data type as ‘string’

```
for( String s: name)
```
From this name array, on every iteration, pick one value. That value store in variable ‘s’ & print that ‘s’.

{
System.out.println(s);
}

- **Enhanced for loop declaration & using Conditional statements inside the loops**

```
int[] arr2 = {1,2,4,5,6,7,8,9,10,122};

//2,4,6,8,10,122

//check if array has multiple of 2

for(int i=0;i<arr2.length;i++)
{
    if (arr2[i] % 2 == 0)
    {
        System.out.println(arr2[i]);

    }
    else
    {
        System.out.println(arr2[i] +"is not multiple of 2");
    }
}
```

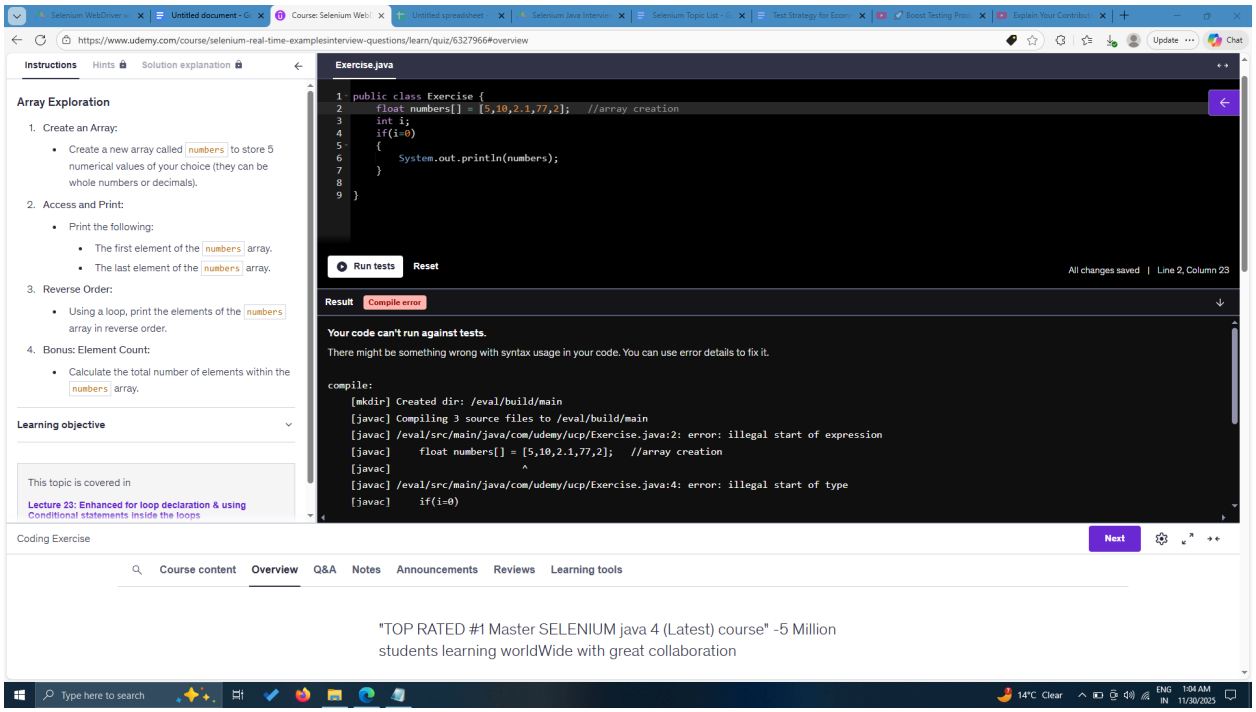
- **Assessment**

Array Exploration

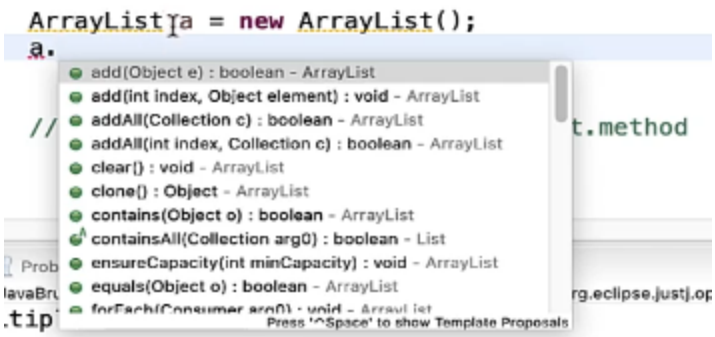
1. **Create an Array:**
    - Create a new array called `numbers` to store 5 numerical values of your choice (they can be whole numbers or decimals).
2. **Access and Print:**
    - Print the following:
        - The first element of the `numbers` array.
        - The last element of the `numbers` array.
3. **Reverse Order:**
    - Using a loop, print the elements of the `numbers` array in reverse order.
4. **Bonus: Element Count:**
    - Calculate the total number of elements within the `numbers` array.

Solution:-

```
public class Exercise {
public static void main(String[] args) {
        // 1. Create an Array
        double[] numbers = {2.5, 9.0, 17.2, 5.0, 3.14};

        // 2. Access and Print
        System.out.println("First element: " + numbers[0]);
        System.out.println("Last element: " + numbers[numbers.length
- 1]);

        // 3. Reverse Order
        System.out.println("Elements in reverse order: ");
        for (int i = numbers.length - 1; i >= 0; i--) {
            System.out.println(numbers[i]);
        }

        // 4. Bonus: Element Count
        System.out.println("Total elements in the array: " +
numbers.length);
    }
}
```



3. **What is Arraylist and differences between Arraylist and Arrays**



In Progresss……..