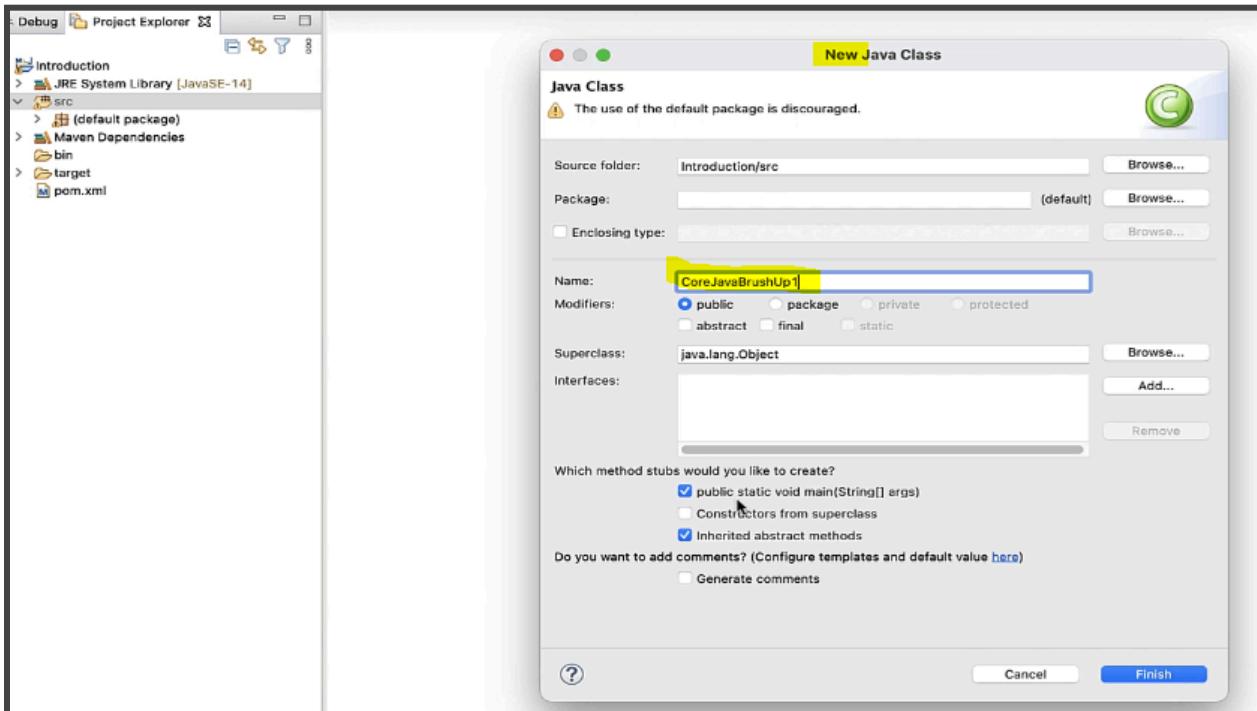


Java basics for selenium

Core Java Basics needed to Get started with Automation -

- **Variables & Data types in Java**
- **Working with Arrays**
- **Loops & Conditions**
- **Strings and its functions**
- **Importance of Array Lists**
- **ArrayList operations and conversion of Array to List**
- **Declaring Methods**
- **Accessing Methods in class & Static keyword**

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(primitive data type), string(non-primitive data type), char, double, boolean.

```

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.

```
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.

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

```

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( : 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 = {1,2,4,5,6,7,8,9,10,12};  
  
//2,4,6,8,10,12  
  
//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

- Create an Array:

- Create a new array called `numbers` to store 5 numerical values of your choice (they can be whole numbers or decimals).

- Access and Print:

- Print the following:
 - The first element of the `numbers` array.
 - The last element of the `numbers` array.

- Reverse Order:

- Using a loop, print the elements of the `numbers` array in reverse order.

- 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);  
    }  
}
```

The screenshot shows a Java exercise interface. On the left, there's a sidebar with 'Instructions', 'Hints', and 'Solution explanation'. Below it, 'Array Exploration' tasks are listed:

- 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.

The main area shows the `Exercise.java` file with the provided code. Below it, there are 'Run tests' and 'Reset' buttons. The 'Result' section shows a 'Compile error':

Your code can't run against tests.
There might be something wrong with syntax usage in your code. You can use error details to fix it.

```
compile:  
[mkdir] Created dir: /eval/build/main  
[javac] Compiling 3 source files to /eval/build/main  
[javac] /eval/src/main/java/com/udemy/ucp/Exercise.java:2: error: illegal start of expression  
[javac]     float numbers[] = {5,10,2.1,77,2}; //array creation  
[javac]                                         ^  
[javac] /eval/src/main/java/com/udemy/ucp/Exercise.java:4: error: illegal start of type  
[javac]     if(i=0)  
[javac]           ^
```

At the bottom, there's a 'Coding Exercise' navigation bar with 'Course content', 'Overview', 'Q&A', 'Notes', 'Announcements', 'Reviews', 'Learning tools', and a 'Next' button. A footer banner says: "TOP RATED #1 Master SELENIUM java 4 (Latest) course" - 5 Million students learning worldWide with great collaboration.

3. What is ArrayList and differences between ArrayList and Arrays

A screenshot of an IDE showing code completion for the variable 'a'. The code is:

```
ArrayList = new ArrayList();
```

The cursor is at the end of the first line, and a tooltip shows the following method suggestions:

- add(Object e) : boolean - ArrayList
- add(int index, Object element) : void - ArrayList
- addAll(Collection c) : boolean - ArrayList
- addAll(int index, Collection c) : boolean - ArrayList
- clear() : void - ArrayList
- clone() : Object - ArrayList
- contains(Object o) : boolean - ArrayList
- containsAll(Collection arg0) : boolean - List
- ensureCapacity(int minCapacity) : void - ArrayList
- equals(Object o) : boolean - ArrayList
- forEach(Consumer arg0) : void - ArrayList

Below the tooltip, there is a note: "Press '^Space' to show Template Proposals".

In Progressss.....