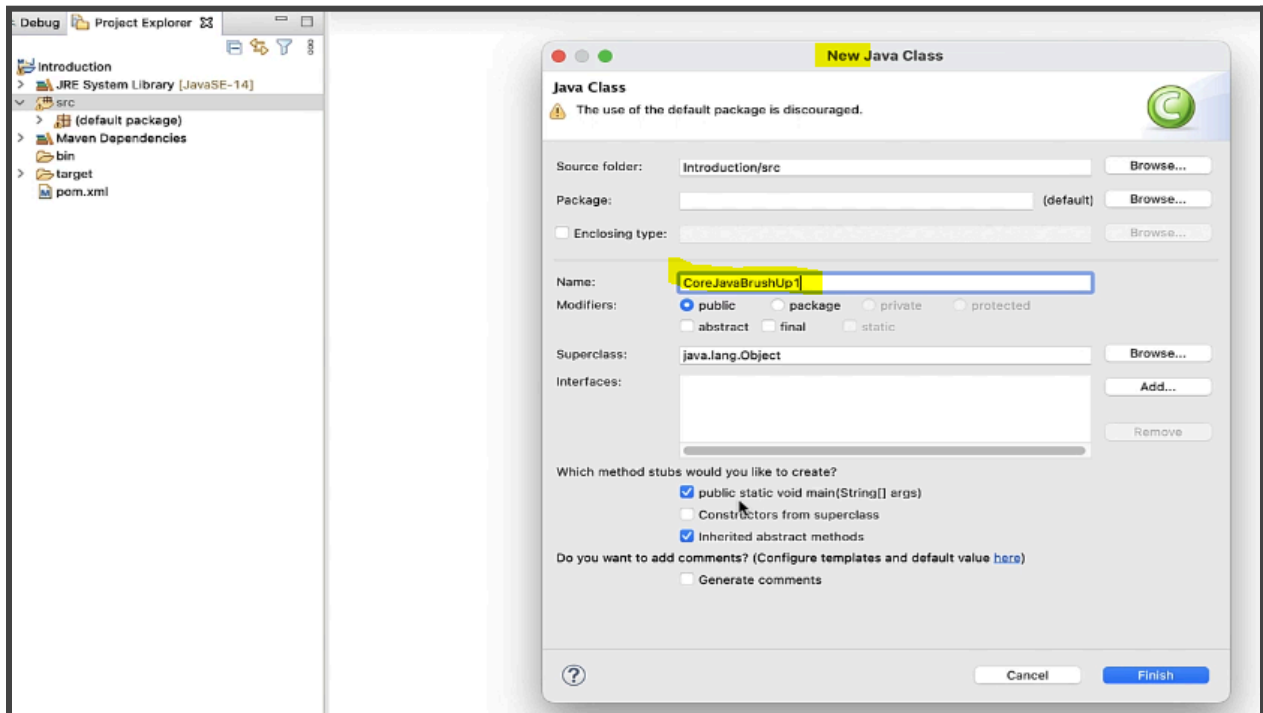


## Java basics for selenium

### 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**
- **Array list 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];
```



storing 5 elements.

Here you declared an array and allocated memory for

```
//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( i: 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);
    }
}
```

The screenshot shows a Udemy course page for "SELENIUM java 4 (Latest) course". The page is divided into two main sections: "Instructions" and "Exercise.java".

**Instructions:**

- 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.
- Learning objective**
  - This topic is covered in [Lecture 23: Enhanced for loop declaration & using Conditional statements inside the loops](#)

**Exercise.java:**

```
1 public class Exercise {
2     float numbers[] = {5,10,2.1,77,2}; //array creation
3     int i;
4     if(i=0)
5     {
6         System.out.println(numbers);
7     }
8 }
9 }
```

**Run tests** **Reset** All changes saved | Line 2, Column 23

**Result** **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]     ^
```

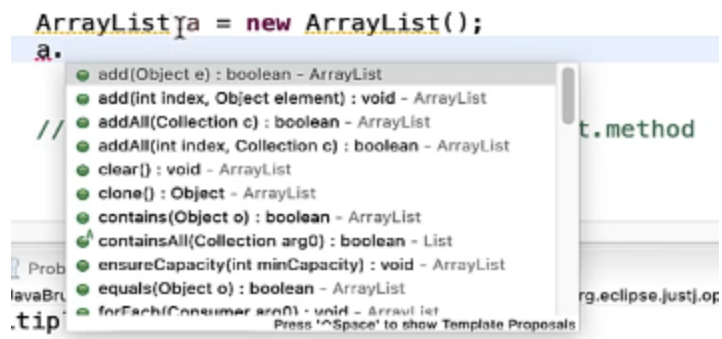
**Next**

**Course content** **Overview** **Q&A** **Notes** **Announcements** **Reviews** **Learning tools**

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



In Progresss.....