two ways to declare an Array:-

Using New keyword

16

```
☑ CheckingArray.java ⋈
         1 package arrayyy;
         3 public class CheckingArray {
                                        public static void main(String[] args) {
         50
                                                            int[] intArray = new int[4];
         6
                                                           //using new keyword two objects get created to represent one array
         7
         8
        9
                                                           intArray[0] = 12;
                                                           intArray[1] = 11;
    10
                                                           intArray[2] = 15;
    11
                                                           intArray[3] = 16;
    12
    13
                                                           // size = 4, index = 0 to 3
    14
    15
                                        for(int i=0;i<intArray.length;i++)</pre>
    16
                                                            System.out.println(intArray[i]);
    17
    18
   19
                                        }
    20 }
 <terminated> CheckingArray [Java Application] C:\Users\avdhu\OneDrive\Documents\eclipse-java-2020-12-R-win32-x86_64\eclipse\partition | C:\Users\avdhu\OneDrive\Documents\eclipse-java-2020-12-R-win32-x86_64\eclipse-java-2020-12-R-win32-x86_64\eclipse-java-2020-12-R-win32-x86_64\eclipse-java-2020-12-R-win32-x86_64\eclipse-java-2020-12-R-win32-x86_64\eclipse-java-2020-12-R-win32-x86_64\eclipse-java-2020-12-R-win32-x86_64\eclipse-java-2020-12-R-win32-x86_64\eclipse-java-2020-12-R-win32-x86_64\eclipse-java-2020-12-R-win32-x86_64\eclipse-java-2020-12-R-win32-x86_64\eclipse-java-2020-12-R-win32-x86_64\eclipse-java-2020-12-R-win32-x86_64\eclipse-java-2020-12-R-win32-x86_64\eclipse-java-2020-12-R-win32-x86_64\eclipse-java-2020-12-R-win32-x86_64\eclipse-java-2020-12-R-win32-x86_64\eclipse-java-2020-12-R-win32-x86_64\eclipse-java-2020-12-R-win32-x86_64\eclipse-java-2020-12-R-win32-x86_64\eclipse-java-2020-12-R-win32-x86_64\eclipse-java-2020-12-R-win32-x86_64\eclipse-java-2020-12-R-win32-x86_64\ellopse-java-2020-12-R-win32-x86_64\ellopse-java-2020-12-R
12
11
15
```

2. Using Array Literal []

Automation Testing

```
☑ CheckingArray.java ☑ *CheckingArray2.java ☒
  1 package arrayyy;
  3 public class CheckingArray2 {
  5⊕
         public static void main(String[] args) {
 6
             int[] a = {12,11,15,16};
 8
              for(int i=0;i<a.length;i++)</pre>
 9
                  System.out.println(a[i]);
10
 11
12 }
 13
■ Console ≅
<terminated> CheckingArray2 [Java Application] C:\Users\avdhu\OneDrive\Documents\
12
11
15
16
```

Array Programing:

Automation Testing

· Reverse Array Program

0	12
1	14
2	16
3	18
4	20

```
☑ *ReverseArray.java 
☒
 1 package arrayyy;
  3 public class ReverseArray {
  5
         //reverse the given array
  6
  7⊜
         public static void main(String[] args) {
  8
             int[] a = {12,14,16,18,20};
  9
             //use reverse loop
10
             for(int i=a.length-1; i>=0;i--)
 11
 12
                  System.out.println(a[i]);
 13
14
         }
15 }
16
■ Console ≅
<terminated> ReverseArray [Java Application] C:\Users\avdhu\OneDrive\Documen
18
16
14
12
```

Automation Lesting

Sort the array in Ascending Order

```
☑ ReverseArray java ☑ ArraySorting java □

  3 public class ArraySorting {
5=
6
7
         public static void main(String[] args) {
              int hold;
             int[] a = { 100, 99, 98, 97, 96, 95, 94, 93, 92, 91, 90, 89, 88, 87, 86, 85, 84, 83, 82, 81, 70, 50, 584, 5000,
  8
  9
                       -12, -3 };
 10
             for (int i = 0; i < a.length; i++) {
   for (int j = i + 1; j < a.length; j++) {
      if (a[i] > a[j]) {
 11
 13
                            hold = a[1];
                            a[i] = a[j];
                            a[j] = hold;
 18
 19
                   }
 20
22 |
23
24
              for(int i = 0; i<a.length;i++)
                   System.out.print(a[i] + " ");
 26 }
Console II
<terminated > ArraySorting [Java Application] C\Users\avdhu\OneDrive\Documents\eclipse-java-2020-12-R-win32-x86_64\eclipse\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_15.0.1.v2020
                                                                                                                                    田米斯国品目 (5)
-12 -3 50 70 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 584 5000
```

Using Arrays.sort method

Example:

```
III ReverseArray.java III ArraySorting.java III *ArraysSortingMethod.java III
  1 package arrayyy;
  3 import java.util.Arrays;
  5 public class ArraysSortingMethod {
         public static void main(String[] args) {
  int[] a = { 100, 99, 98, 97, 96, 95, 94, 93, 92, 91, 90, 89, 88, 87, 86, 85, 84, 83, 82, 81, 70, 50, 584, 5000,
  8
  9
 10
                          -12, -3 };
 11
 12
13
14
15
16
17
18
19
20
21
               Arrays.sort(a); //Asending order only
              for(int i =0; i<a.length;i++)
    System.out.print(a[i] + " "); //Ascending</pre>
               System.out.println();
               for(int i=a.length-1;i>=0;i--)
System.out.print(a[i] + " "); //Decending
22
Console 11
                                                                                                                                            田其後 以至五百万百年
<terminated > ArraysSortingMethod [Java Application] C\Users\avdhu\OneDrive\Documents\ecilipse-java-2020-12-R-win32-x86_64\ecilipse\plugins\org ecilipse.justj.openjdk.hotspot.jre.full.win32.x86_64_15.0.1
-12 -3 50 70 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 584 5000
5000 584 100 99 98 97 96 95 94 93 92 91 90 89 88 87 86 85 84 83 82 81 70 50 -3 -12
```

Using Arrays.sort method

Example:

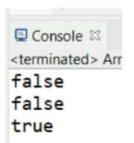
```
II) ReverseArray.java III ArraySorting.java III *ArraySortingMethod.java II
  1 package arrayyy;
  3 import java.util.Arrays;
  5 public class ArraysSortingMethod {
         public static void main(String[] args) {
  int[] a = { 100, 99, 98, 97, 96, 95, 94, 93, 92, 91, 90, 89, 88, 87, 86, 85, 84, 83, 82, 81, 70, 50, 584, 5000,
  8=
  9
                         -12, -3 };
 10
 11
 12
               Arrays.sort(a); //Asending order only
 13
14
15
16
17
18
19
28
21
               for(int i =0; i<a.length;i++)
    System.out.print(a[i] + " "); //Ascending</pre>
               System.out.println();
              for(int i=a.length-1;i>=0;i--)
System.out.print(a[i] + " "); //Decending
22 }
                                                                                                                                           ■ X 後 当 正 3 500
Console 17
<terminated > ArraysSortingMethod [Java Application] C\Users\avdhu\OneDrive\Documents\eclipse-java-2020-12-R-win32-x86_64\eclipse\plugins\org eclipse justj.openjdk.hotspot.jre.full.win32.x86_64_15.0.1
-12 -3 50 70 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 584 5000
5000 584 100 99 98 97 96 95 94 93 92 91 90 89 88 87 86 85 84 83 82 81 70 50 -3 -12
```

Automation Testing

 Compare array and check whether given arrays are as same or not

```
ArrayComparision.java \(\omega\)
ReverseArray.java
                ArraySorting.java
                                 ArraysSortingMethod.java
 1 package arrayyy;
 3 import java.util.Arrays;
 4
 5 public class ArrayComparision {
 6
 7
        public static void main(String[] args) {
 89
 9
             int[] a = {1,2,3,4};
             int[] b = \{1,45,35,4\};
10
11
             int[] c = {1,2,3,4};
12
            System.out.println(Arrays.equals(a, b)); //false
13
14
            System.out.println(Arrays.equals(b, c)); //false
            System.out.println(Arrays.equals(a, c));
15
16
17
        }
18 }
19
```

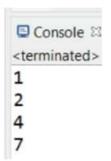
Output:



Write program to print duplicate value

```
ArrayComparision
                                ArraysSortingMethod.java
                ArraySorting.java
ReverseArray.java
 1 package arrayyy;
 3 public class DuplicateValue {
 4
        public static void main(String[] args) {
 58
            int[] a = { 1, 2, 2, 3, 4, 5, 6, 1, 7, 7, 8, 4 };
 6
 7
            for (int i = 0; i < a.length; i++) {
 8
                 for (int j = i + 1; j < a.length; j++) {
 9
10
                     if(a[i]==a[j])
11
                          System.out.println(a[j]);
12
13
                 }
            }
14
        }
15
16 }
```

Output



Sort the array in Decending Order

```
3 public class ArraySorting {
         public static void main(String[] args) {
  6
              int[] a = { 100, 99, 98, 97, 96, 95, 94, 93, 92, 91, 90, 89, 88, 87, 86, 85, 84, 83, 82, 81, 70, 50, 584, 50
  8
  9
                        -12, -3 };
 10
 11
              for (int i = 0; i < a.length; i++) {
                   for (int j = i + 1; j < a.length; j++) {
   if (a[i] < a[j]) {</pre>
 12
 13
 14
                             hold = a[i];
15
16
                            a[i] = a[j];

a[j] = hold;
17
18
19
20
                   }
21
22
23
24
              for(int i = 0; i<a.length;i++)
                   System.out.print(a[i] + " ");
25
26 }
                                                                                                                                = X 後 | B 1
<terminated> ArraySorting Uava Application) C\Users\avdhu\(OneDrive\Documents\eclipse-java-2020-12-R-win32-x86_64\eclipse\plugins\org.eclipse\plugins\org.eclipse_justj.openidk.hotspot.jre.full.win32-x86_64_15.0.1
5000 584 100 99 98 97 96 95 94 93 92 91 90 89 88 87 86 85 84 83 82 81 70 50 -3 -12
```