two ways to declare an Array:-

1. Using New keyword

CheckingArray.java

```
1  package arrayyy;
2
3  public class CheckingArray {
4
5      public static void main(String[] args) {
6          int[] intArray = new int[4];
7          //using new keyword two objects get created to represent one array
8
9          intArray[0] = 12;
10         intArray[1] = 11;
11         intArray[2] = 15;
12         intArray[3] = 16;
13
14         // size = 4, index = 0 to 3
15
16     for(int i=0;i<intArray.length;i++)
17         System.out.println(intArray[i]);
18
19     }
20 }
```

Console

<terminated> CheckingArray [Java Application] C:\Users\avdhu\OneDrive\Documents\eclipse-java-2020-12-R-win32-x86_64\eclipse\

```
12
11
15
16
```

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2. Using Array Literal []

Automation Testing

CheckingArray.java *CheckingArray2.java

```
1  package arrayyy;
2
3  public class CheckingArray2 {
4
5      public static void main(String[] args) {
6          int[] a = {12,11,15,16};
7
8          for(int i=0;i<a.length;i++)
9              System.out.println(a[i]);
10     }
11
12 }
13
```

Console

<terminated> CheckingArray2 [Java Application] C:\Users\avdhu\OneDrive\Documents\

```
12
11
15
16
```

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Array Programing:

Automation Testing

- Reverse Array Program

0	12
1	14
2	16
3	18
4	20

*ReverseArray.java

```
1  package arrayyy;
2
3  public class ReverseArray {
4
5      //reverse the given array
6
7      public static void main(String[] args) {
8          int[] a = {12,14,16,18,20};
9
10         //use reverse loop
11         for(int i=a.length-1; i>=0;i--)
12             System.out.println(a[i]);
13
14     }
15 }
16
```

Console

<terminated> ReverseArray [Java Application] C:\Users\avdhu\OneDrive\Documen

```
20
18
16
14
12
```

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Automation Testing

- Sort the array in Ascending Order

ReverseArray.java ArraySorting.java

```
public class ArraySorting {

    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,
                -12, -3 };

        for (int i = 0; i < a.length; i++) {
            for (int j = i + 1; j < a.length; j++) {
                if (a[i] > a[j]) {
                    hold = a[i];
                    a[i] = a[j];
                    a[j] = hold;
                }

            }

        }

        for(int i = 0; i<a.length;i++)
            System.out.print(a[i] + " ");
    }
}
```

Console

<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.v202C

```
-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
```

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Using Arrays.sort method

Example:

ReverseArray.java | ArraySorting.java | *ArraysSortingMethod.java

```
1  package arrayyy;
2
3  import java.util.Arrays;
4
5  public class ArraysSortingMethod {
6
7
8      public static void main(String[] args) {
9          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,
10                 -12, -3 };
11
12         Arrays.sort(a);  //Asending order only
13
14         for(int i =0; i<a.length;i++)
15             System.out.print(a[i] + " ");  //Ascending
16
17         System.out.println();
18
19         for(int i=a.length-1;i>=0;i--)
20             System.out.print(a[i] + " "); //Decending
21     }
22 }
23
```

Console

<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
```

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Using Arrays.sort method

Example:

ReverseArray.java | ArraySorting.java | *ArraysSortingMethod.java

```
1  package arrayyy;
2
3  import java.util.Arrays;
4
5  public class ArraysSortingMethod {
6
7
8      public static void main(String[] args) {
9          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,
10                 -12, -3 };
11
12         Arrays.sort(a);  //Asending order only
13
14         for(int i =0; i<a.length;i++)
15             System.out.print(a[i] + " ");  //Ascending
16
17         System.out.println();
18
19         for(int i=a.length-1;i>=0;i--)
20             System.out.print(a[i] + " "); //Decending
21     }
22 }
23
```

Console

<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
```

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Automation Testing

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

ReverseArray.java | ArraySorting.java | ArraysSortingMethod.java | ArrayComparision.java

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

Output:

Console

<terminated> Arr

```
false
false
true
```

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- Write program to print duplicate value

ReverseArray.java | ArraySorting.java | ArraysSortingMethod.java | ArrayComparisio

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

Output

Console

<terminated>

```
1
2
4
7
```

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- Sort the array in Decending Order

ReverseArray.java | ArraySorting.java

```
2
3  public class ArraySorting {
4
5      public static void main(String[] args) {
6
7          int hold;
8          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, 5
9                  -12, -3 };
10
11         for (int i = 0; i < a.length; i++) {
12             for (int j = i + 1; j < a.length; j++) {
13                 if (a[i] < a[j]) {
14                     hold = a[i];
15                     a[i] = a[j];
16                     a[j] = hold;
17                 }
18
19             }
20
21         }
22
23         for(int i = 0; i<a.length;i++)
24             System.out.print(a[i] + " ");
25     }
26 }
```

Console

<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

```
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
```

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