

```

1 package javasessions;
2
3 import java.util.Arrays;
4
5 public class StaticArrayConcept {
6
7     public static void main(String[] args) {
8
9         int i[] = new int[4];
10        i[0] = 10;
11        i[1] = 20;
12        i[2] = 30;
13        i[3] = 40;
14
15        System.out.println(Arrays.toString(i));
16
17
18

```

Console: [10, 20, 30, 40]

```

16
17 //index based loop:
18 for(int k=0; k<i.length-1; k++) {
19     System.out.println(i[k]);
20 }
21

```

10

20

30

```

10
17 //index based loop:
18 for(int k=0; k<=i.length-1; k++) {
19     System.out.println(i[k]);
20 }
21

```

10

20

30

40

For each loop-

```

21
22     System.out.println("-----");
23     //for each loop:
24     for(int e : i) {
25         System.out.println(e);
26     }

```

10

20

30

40

Data type should match else error-

//Type mismatch: cannot convert from element type int to String

```

22     System.out.println("-----");
23     //for each loop:
24     for(String e : i) {
25         System.out.println(e);
26     }
27

```

With break-

```

21
22     System.out.println("-----");
23     //for each loop:
24     for(int e : i) {
25         System.out.println(e);
26         break;
27     }
28

```

10

Normal for loop better performer.

Double array-

Note-

Lower values can be stored in higher values.

```

31
32      //2. double array:
33      double d[] = new double[3]; //0-2
34      d[0] = 12.33;
35      d[1] = 23.44;
36      d[2] = 100.11;
37
38      for(double e : d) {
39          System.out.println(e);
40      }
41
42
43
44

```

Prints all array values.

Char array-

Size is mandatory to give else error.

//Variable must provide either dimension expressions or an array initializer

```

41
42      //char array:
43      char ch[] = new char[];
44

```

```

45
46      //char array:
47      char ch[] = new char[4];
48      ch[0] = 'a';
49      ch[1] = 'A';
50      ch[2] = '0';
51      ch[3] = '$';
52
53      for(char e : ch) {
54          System.out.println(e);
55      }

```

Prints all char values.

Short cut to print arrays-

```
53     }
54     System.out.println(Arrays.toString(ch));
55 }
```

[a, A, 0, \$]

Print array name-

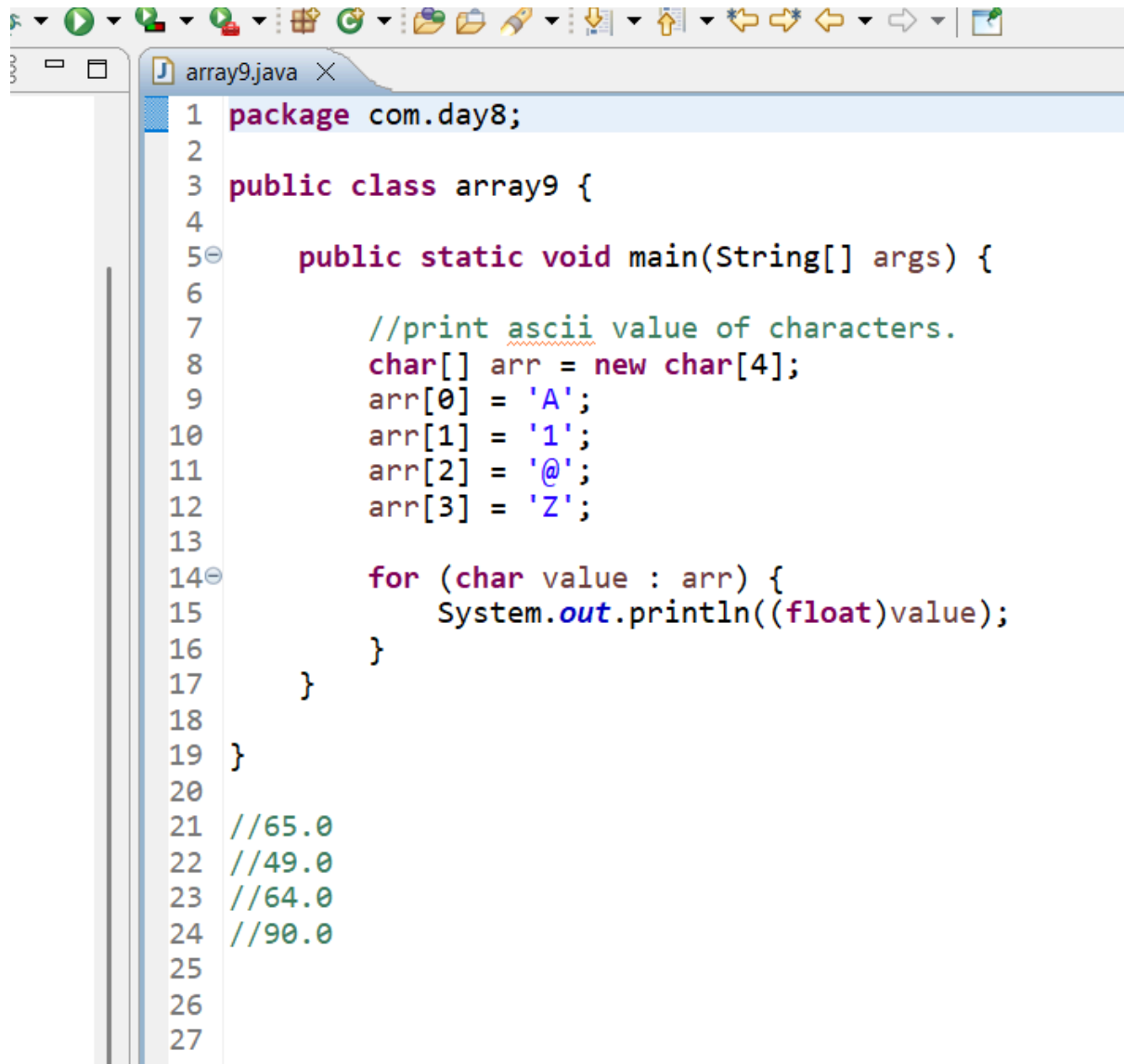
```
15
16     System.out.println(i);
17 }
```

Hash code of memory printed.

To print ascii value-

```
45
46     //char array:
47     char ch[] = new char[4];
48     ch[0] = 'a';
49     ch[1] = 'A';
50     ch[2] = '0';
51     ch[3] = '$';
52
53     for(char e : ch) {
54         System.out.println((byte)e);
55     }
56 }
```

paste array9-



```
1 package com.day8;
2
3 public class array9 {
4
5     public static void main(String[] args) {
6
7         //print ascii value of characters.
8         char[] arr = new char[4];
9         arr[0] = 'A';
10        arr[1] = '1';
11        arr[2] = '@';
12        arr[3] = 'Z';
13
14        for (char value : arr) {
15            System.out.println((float)value);
16        }
17    }
18 }
19
20
21 //65.0
22 //49.0
23 //64.0
24 //90.0
25
26
27
```

Note-

Print char array, we get same memory address as char. Print any other data type, we get memory address.

```

46      System.out.println("-----");
47
48      //char array:
49      char ch[] = new char[4];
50      ch[0] = 'a';
51      ch[1] = 'A';
52      ch[2] = '0';
53      ch[3] = '$';
54
55      for(char e : ch) {
56          System.out.println(e);
57      }
58
59      System.out.println(Arrays.toString(ch));
60      System.out.println(ch);
61

```

```

aA0$

```

simply printing char array gives memory address.

```

34      //2. double array:
35      double d[] = new double[3]; //0-2
36      d[0] = 12.33;
37      d[1] = 23.44;
38      d[2] = 100.11;
39      System.out.println(d);

```

```

-----
[D@dcf3e99

```

String array-

```

63
64      //String array:
65      String emp[] = new String[3]; //0-2
66      emp[0] = "Tom";
67      emp[1] = "Amit";
68      emp[2] = "Lisa";
69
70      for(String e: emp) {
71          System.out.println(e);
72      }
73

```

Tom amit lisa

With conditions-

```

69
70      for(String e: emp) {
71          System.out.println(e);
72          if(e.equals("Amit")) {
73              System.out.println("emp is admin");
74              break;
75          }
76      }
77
78
79

```

Object array-

Existing class.

Any datatype can be stored.

```

79
80 //Object array:
81
82 Object data[] = new Object[5]; //0-4
83 data[0] = "Tom";
84 data[1] = 30;
85 data[2] = 'm';
86 data[3] = 35.55;
87 data[4] = true;
88
89
90 System.out.println(Arrays.toString(data));
91

```

For each with object-

```

92 for(Object e : data) {
93     System.out.println(e);
94 }
95

```

With normal for loop-

```

96 for(int k=0; k<=data.length-1; k++) {
97     System.out.println(data[k]);
98 }
99

```

Print in reverse-


```

102
103     int p[] = new int[4];
104     p[0] = 10;
105     p[1] = 20;
106     p[2] = 30;
107     p[3] = 40;
108
109     for(int k=p.length-1; k>=0; k--) {
110         System.out.println(p[k]);
111     }

```

Print in reverse using for each-

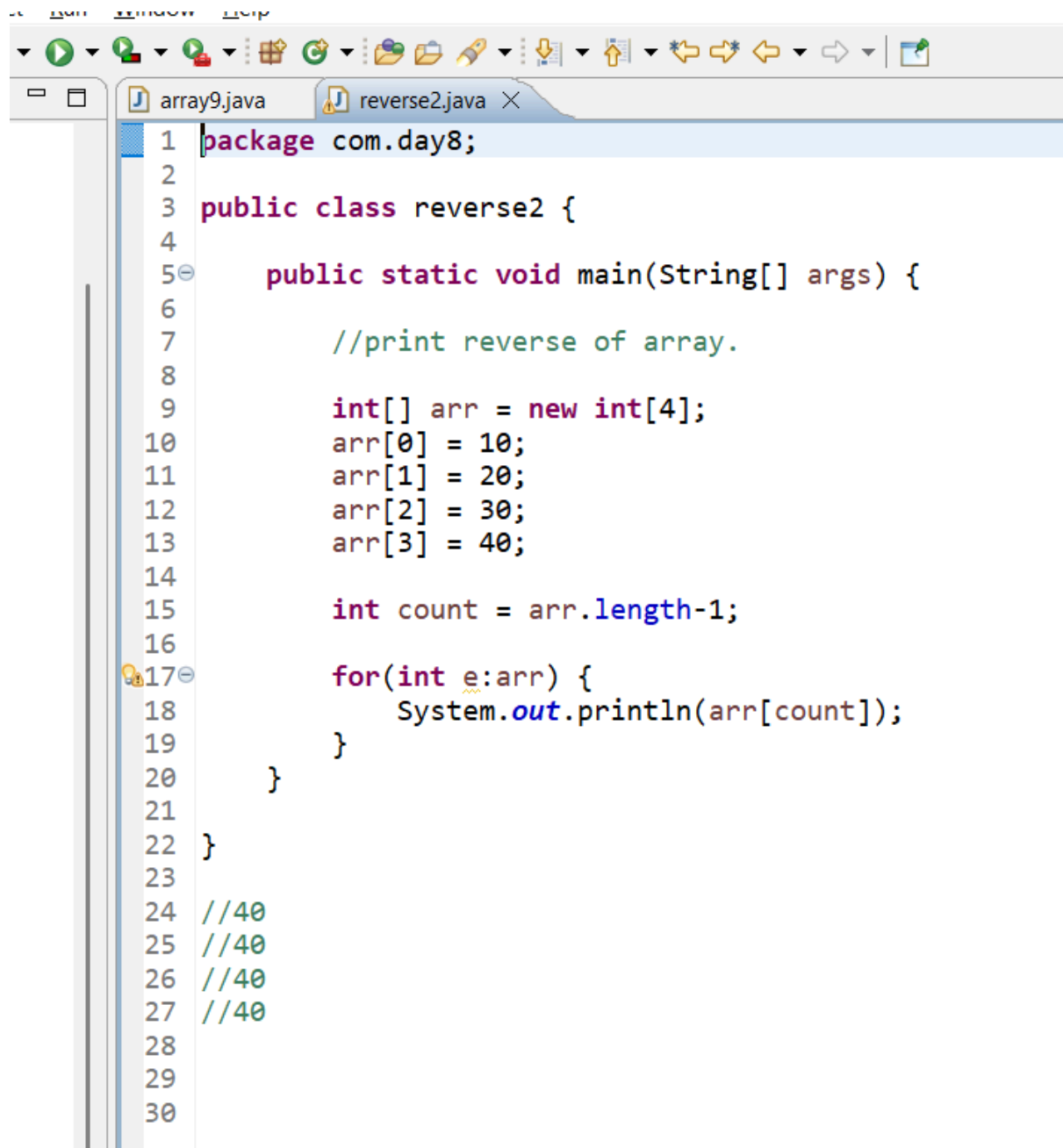
```

114
115     int count = p.length-1; //3
116     for(int e : p) {
117         System.out.println(p[count]); //40
118         count--;
119     }

```

40 30 20 10

paste reverse2-



```

1 package com.day8;
2
3 public class reverse2 {
4
5     public static void main(String[] args) {
6
7         //print reverse of array.
8
9         int[] arr = new int[4];
10        arr[0] = 10;
11        arr[1] = 20;
12        arr[2] = 30;
13        arr[3] = 40;
14
15        int count = arr.length-1;
16
17        for(int e:arr) {
18            System.out.println(arr[count]);
19        }
20    }
21
22 }
23
24 //40
25 //40
26 //40
27 //40
28
29
30

```

How to use all variables inside for each and print in reverse-

```

114
115        int count = p.length-1;//3
116        for(int e : p) {
117            e = count;
118            System.out.println(p[e]); //40 30
119            count--; //1
120

```

40 30 20 10

```

115         int count = p.length-1;//3
116         for(int e : p) {
117             e = count;
118             System.out.println(p[e]); //40 30
119             //count--; //1
120         }

```

40 40 40 40

```

76
77         //Array Literals: static array:
78         int num[] = {10,20,30,50,12,34};
79
80

```

```

76
77         //Array Literals: static array:
78         int num[] = {10,20,30,50,12,34}; //6-->0 to 5
79         //if we have the data already with us
80         System.out.println(num.length);
81         System.out.println(num[0]);
82         //System.out.println(num[6]);
83         num[0] = 400;
84         System.out.println(num[0]);
85
86
87
88         int pop[] = new int[10]; //if we are not sure about the full data
89
90
91

```

6 10 400.

paste literal1-

```

1 package com.day8;
2
3 public class literal1 {
4
5     public static void main(String[] args) {
6
7         int[] arr = {1, 2, 3, 4, 5}; //array literals, static array.
8
9         System.out.println(arr.length); //5
10        System.out.println(arr[0]); //1
11
12        // System.out.println(arr[10]);
13        // Exception in thread "main" java.lang.ArrayIndexOutOfBoundsException: Index 10 out of bounds for length 5
14        // at com.day8.literal1.main(literal1.java:12)
15        arr[0]=7878;
16        System.out.println(arr[0]); //7878
17    }
18 }
19
20

```

```

70
71
72 //Array Literals: static array:
73 int num[] = {10,20,30,50,12,34}; //6—>0 to 5
74 //if we have the data already with us
75 System.out.println(num.length);
76 System.out.println(num[0]);
77 //System.out.println(num[6]);
78 System.out.println(Arrays.toString(num));
79 num[0] = 400;
80 System.out.println(Arrays.toString(num));
81
82

```

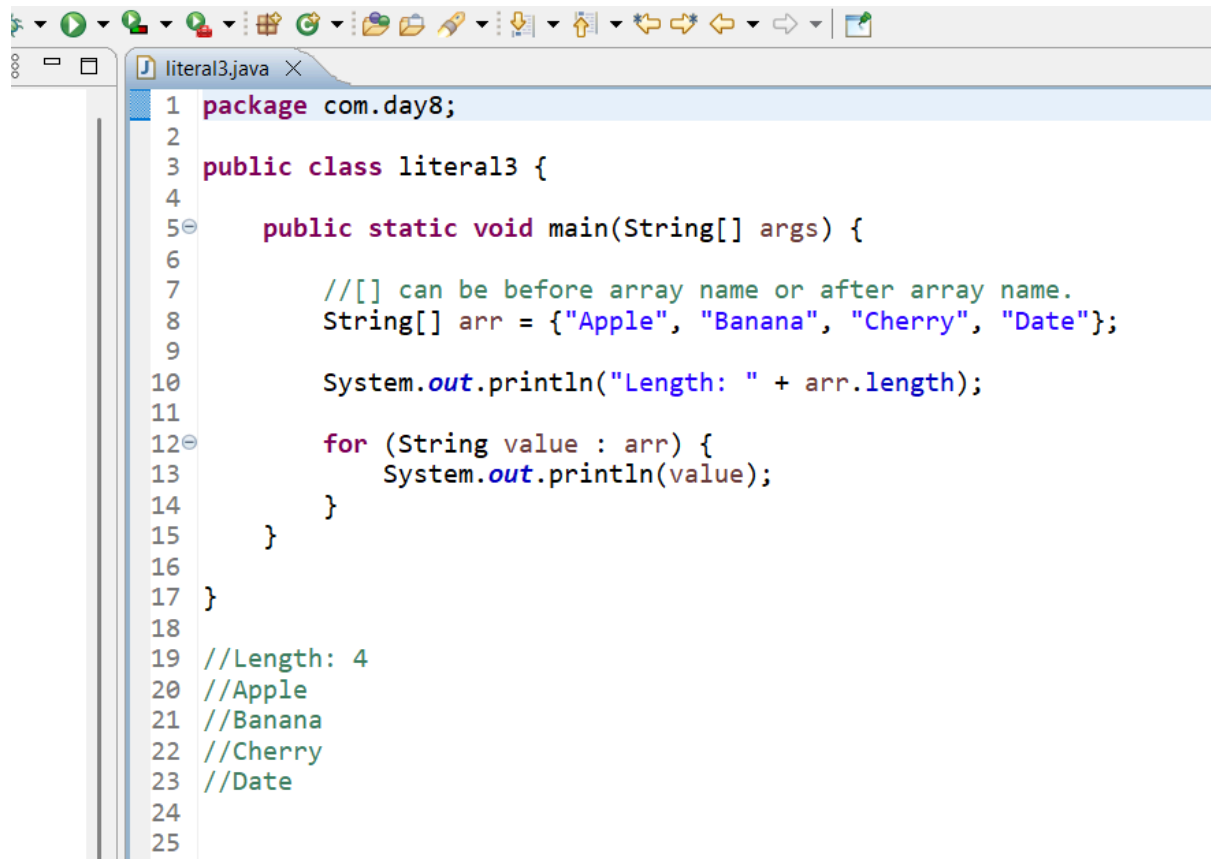
```

10
[10, 20, 30, 50, 12, 34]
[400, 20, 30, 50, 12, 34]

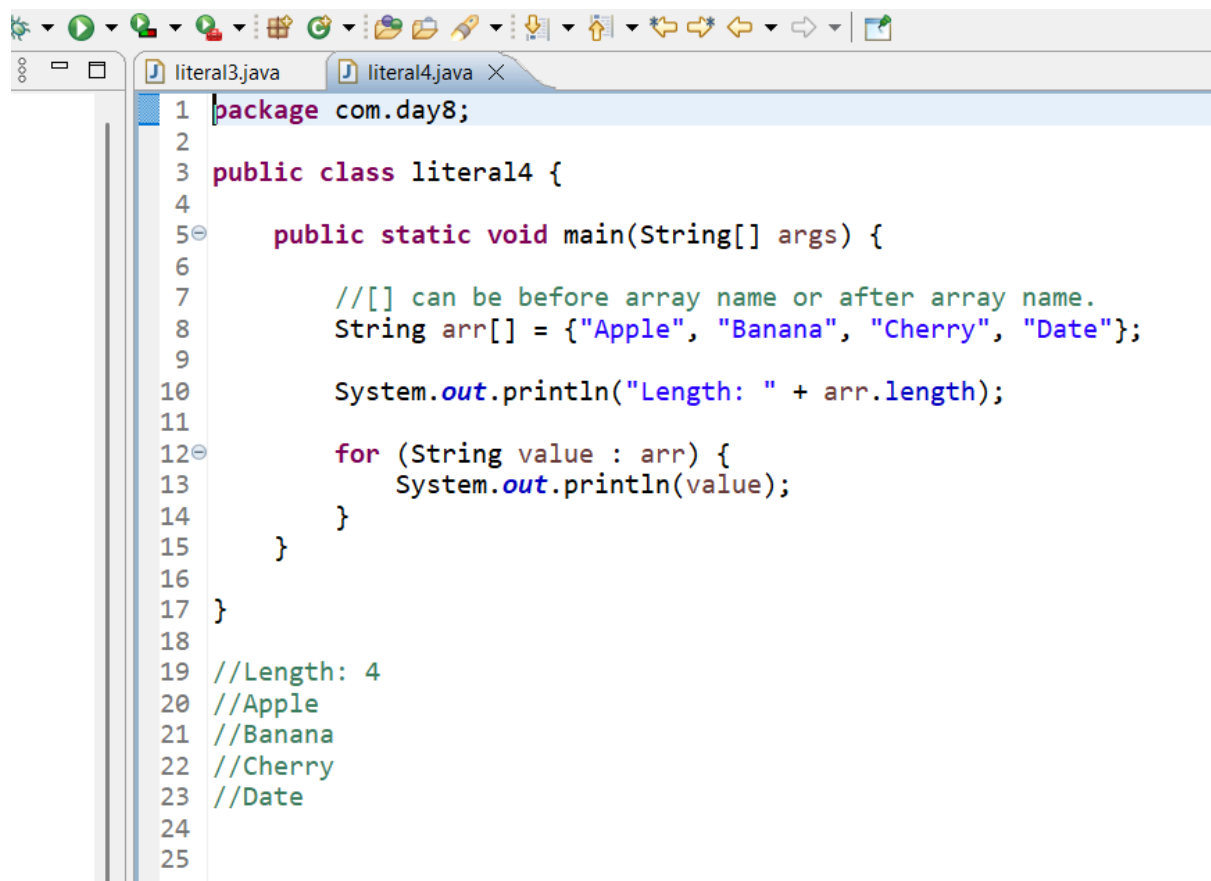
```

String array-

paste literal 3 and literal 4 -



```
1 package com.day8;
2
3 public class literal3 {
4
5     public static void main(String[] args) {
6
7         //[ ] can be before array name or after array name.
8         String[] arr = {"Apple", "Banana", "Cherry", "Date"};
9
10        System.out.println("Length: " + arr.length);
11
12        for (String value : arr) {
13            System.out.println(value);
14        }
15    }
16 }
17
18 //Length: 4
19 //Apple
20 //Banana
21 //Cherry
22 //Date
23
24
25
```



```
1 package com.day8;
2
3 public class literal4 {
4
5     public static void main(String[] args) {
6
7         //[ ] can be before array name or after array name.
8         String arr[] = {"Apple", "Banana", "Cherry", "Date"};
9
10        System.out.println("Length: " + arr.length);
11
12        for (String value : arr) {
13            System.out.println(value);
14        }
15    }
16 }
17
18 //Length: 4
19 //Apple
20 //Banana
21 //Cherry
22 //Date
23
24
25
```

How to know if static array-

Add more values, we get array index out of bounds after running the code.

```

91
92     String browser[] = {"chrome", "firefox", "edge"}; //0-2
93     System.out.println(browser.length);
94
95     browser[3] = "ie";
96
97
98
99     for(String e : browser) {
100         System.out.println(e);
101     }
102

```

```

113     system.out.println( "-----" );
114
115     int count = p.length-1; //3
116     for(int e : p) {
117         e = count;
118         System.out.println(e + " = " + p[e]); //40 30
119         count--; //1
120     }
121 }

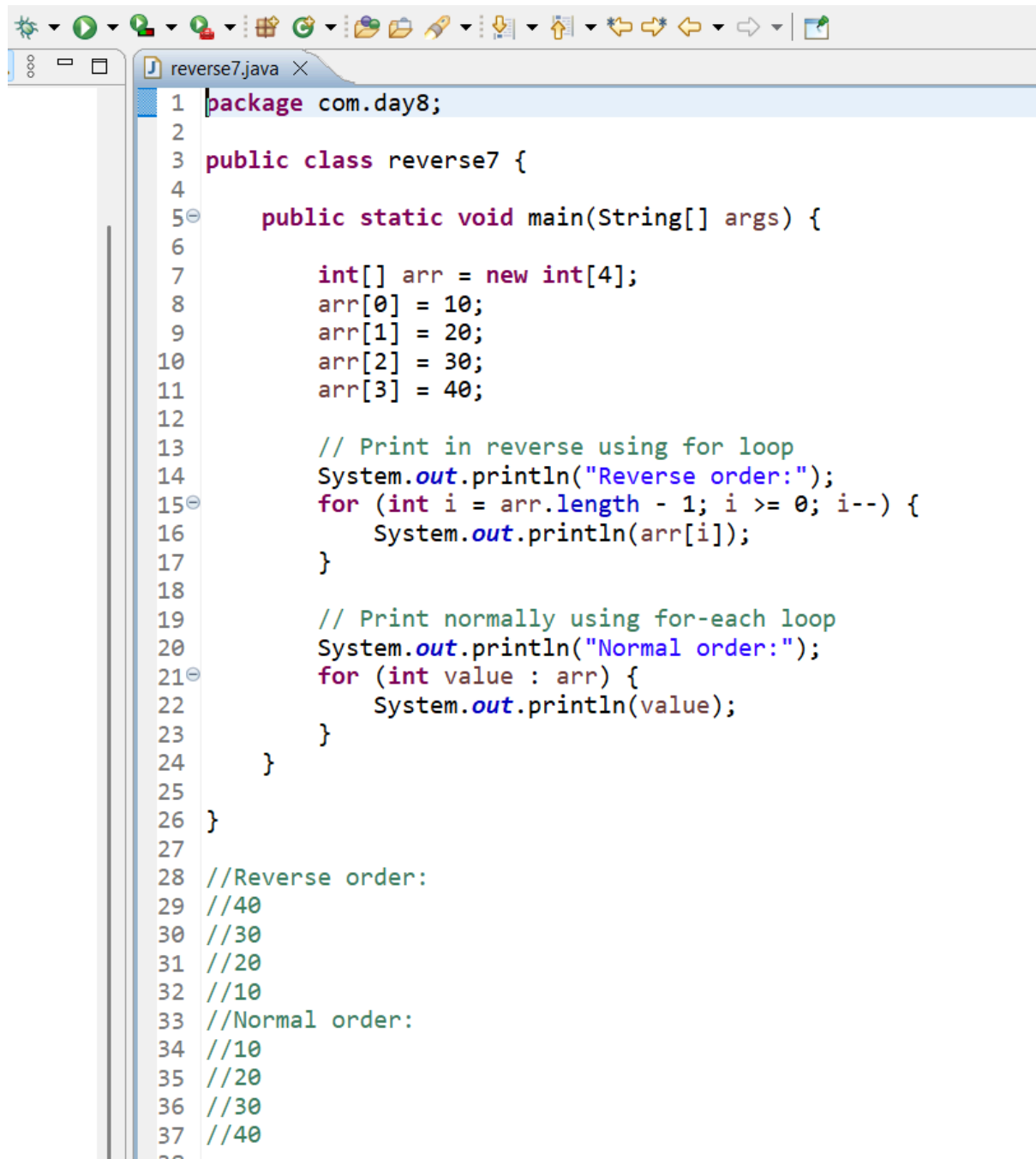
```

```

-----
3 = 40
2 = 30
1 = 20
0 = 10

```

paste reverse7-

A screenshot of an IDE window titled 'reverse7.java'. The code defines a package 'com.day8' and a public class 'reverse7'. Inside the class, there is a 'main' method that creates an integer array 'arr' with values [10, 20, 30, 40]. It then prints the array in reverse order using a 'for' loop and in normal order using a 'for-each' loop. Comments at the bottom show the expected output: 'Reverse order: 40 30 20 10' and 'Normal order: 10 20 30 40'.

```
1 package com.day8;
2
3 public class reverse7 {
4
5     public static void main(String[] args) {
6
7         int[] arr = new int[4];
8         arr[0] = 10;
9         arr[1] = 20;
10        arr[2] = 30;
11        arr[3] = 40;
12
13        // Print in reverse using for loop
14        System.out.println("Reverse order:");
15        for (int i = arr.length - 1; i >= 0; i--) {
16            System.out.println(arr[i]);
17        }
18
19        // Print normally using for-each loop
20        System.out.println("Normal order:");
21        for (int value : arr) {
22            System.out.println(value);
23        }
24    }
25 }
26
27
28 //Reverse order:
29 //40
30 //30
31 //20
32 //10
33 //Normal order:
34 //10
35 //20
36 //30
37 //40
38
```

Print in reverse order-

```

102
103     int p[] = new int[4];
104     p[0] = 10;
105     p[1] = 20;
106     p[2] = 30;
107     p[3] = 40;
108
109     for(int k=p.length-1; k>=0; k--) {
110         System.out.println(p[k]);
111     }
112
113     System.out.println("-----");
114
115     int count = p.length-1;//3
116     for(int e : p) {
117         e = count;//3
118         System.out.println(p[e]);//40 30 20 10
119         count--;//2
120     }
121
122

```



```

122
123     //byte/short/long/int: 0
124     //double/float: 0.0
125     //char: space
126     //String: null

```

```

127
128     String naveen[] = new String[3]; //0-2
129     System.out.println(Arrays.toString(naveen));
130

```

[null, null, null]