

# JAVA ASSIGNMENT 2

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BATCH : AIML A1

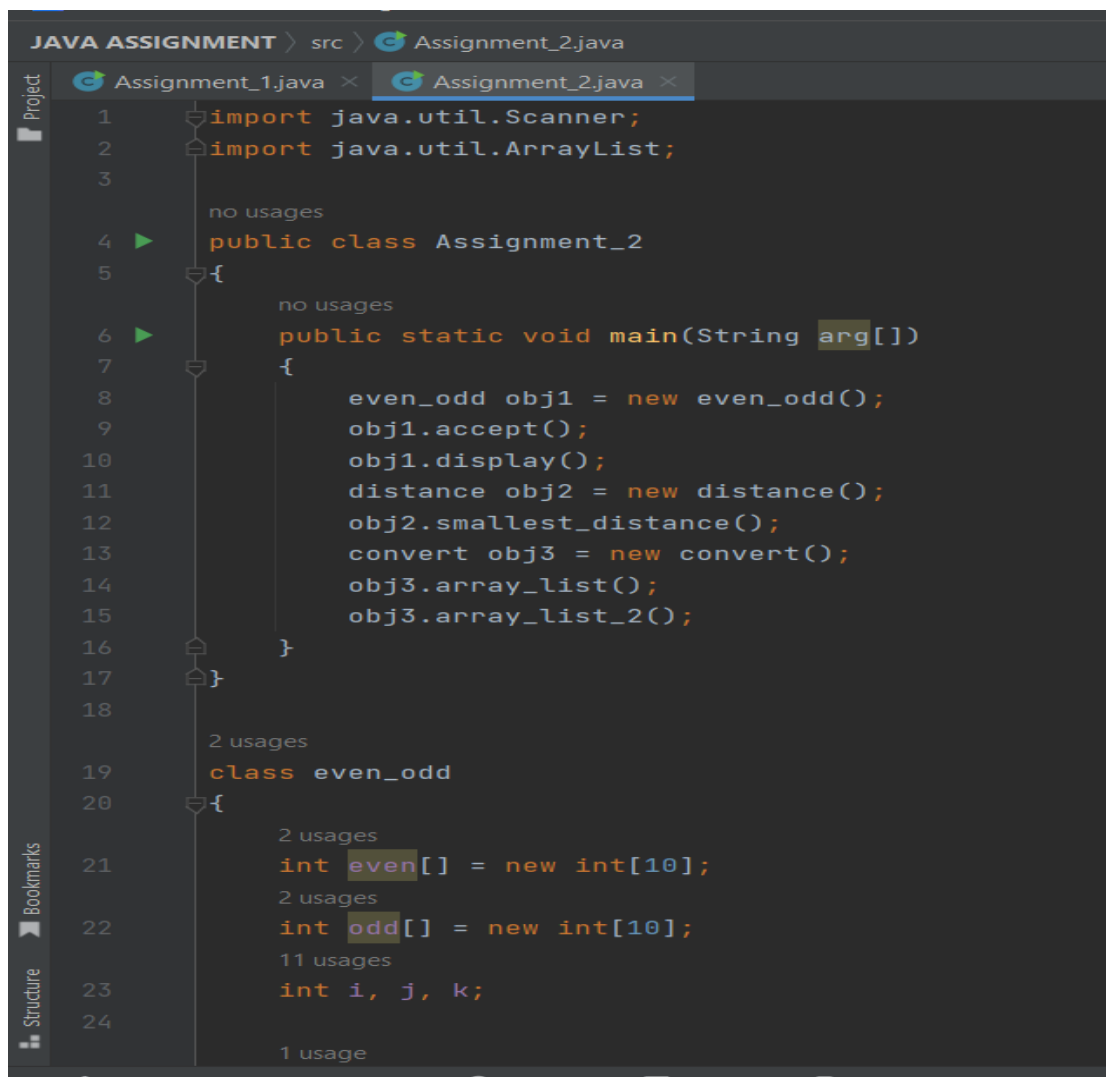
QUESTION:-

Part1: Write a Java program that declares two arrays named 'even' and 'odd'. Accept numbers from the user and move them to respective arrays depending on whether they are even or odd.

Part2: Implement a java function that finds 2 neighboring numbers in an array with the smallest distance to each. The function should return the index of the 1st number.

Part 3: Write a Java program to convert an array into ArrayList and vice versa.

CODE



```
1  import java.util.Scanner;
2  import java.util.ArrayList;
3
4  public class Assignment_2
5  {
6      public static void main(String arg[])
7      {
8          even_odd obj1 = new even_odd();
9          obj1.accept();
10         obj1.display();
11         distance obj2 = new distance();
12         obj2.smallest_distance();
13         convert obj3 = new convert();
14         obj3.array_list();
15         obj3.array_list_2();
16     }
17 }
18
19 class even_odd
20 {
21     int even[] = new int[10];
22     int odd[] = new int[10];
23     int i, j, k;
24 }
```

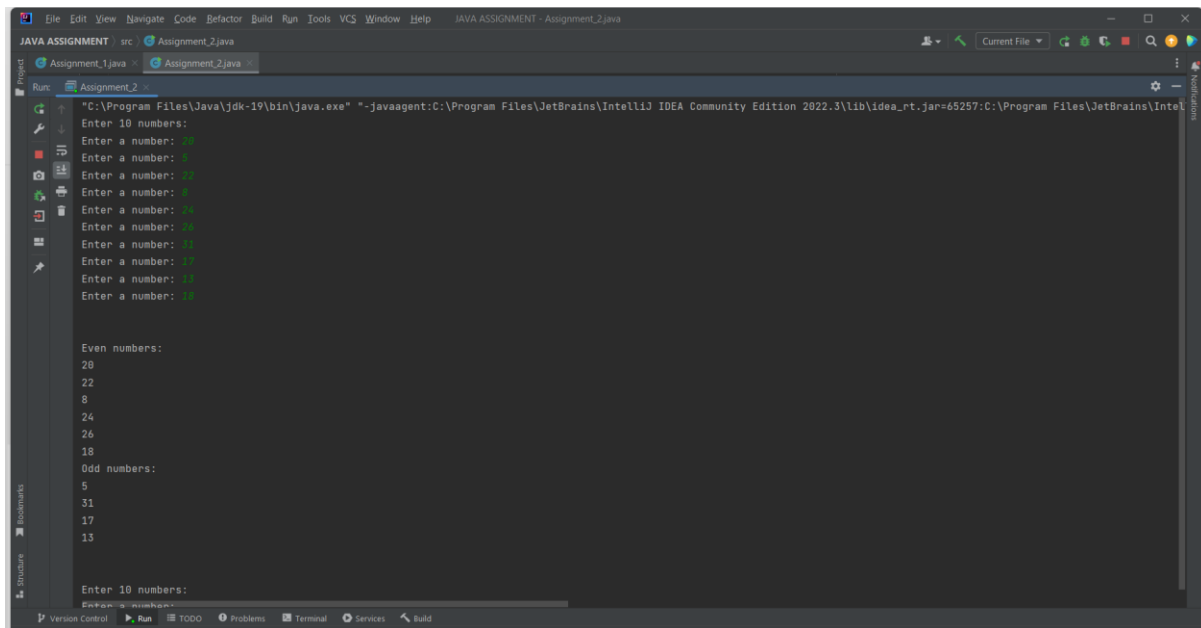
```
JAVA ASSIGNMENT > src > Assignment_2.java
Assignment_1.java x Assignment_2.java x
1 usage
25 void accept()
26 {
27     Scanner obj = new Scanner(System.in);
28     System.out.println("Enter 10 numbers: ");
29     for(i = 0; i < 10; i++)
30     {
31         System.out.print("Enter a number: ");
32         int a = obj.nextInt();
33         if(a % 2 == 0)
34         {
35             even[j] = a;
36             j++;
37         }
38         else
39         {
40             odd[k] = a;
41             k++;
42         }
43     }
44     System.out.println("\n");
45 }
46
47 1 usage
48 void display()
49 {
50     System.out.println("Even numbers: ");
51     for (i = 0; i < j; i++)
52     {
53         System.out.println(even[i]);
54     }
55 }
```

```
JAVA ASSIGNMENT > src > Assignment_2.java
Assignment_1.java x Assignment_2.java x
53 }
54 System.out.println("Odd numbers: ");
55 for (i = 0; i < k; i++)
56 {
57     System.out.println(odd[i]);
58 }
59 System.out.println("\n");
60 }
61 }
62
63 2 usages
64 class distance
65 {
66     1 usage
67     void smallest_distance()
68     {
69         Scanner obj = new Scanner(System.in);
70         int a[] = new int[10];
71         System.out.println("Enter 10 numbers: ");
72         for (int i = 0; i < 10; i++)
73         {
74             System.out.print("Enter a number: ");
75             a[i] = obj.nextInt();
76         }
77         int i, j, min = 1000, index1 = 0, index2 = 0;
78         for (i = 0; i < 10; i++)
79         {
80             for (j = i + 1; j < 10; j++)
81             {
82                 if (Math.abs(a[i] - a[j]) < min)
83                 {
84                     min = Math.abs(a[i] - a[j]);
85                     index1 = i;
86                     index2 = j;
87                 }
88             }
89         }
90     }
91 }
```

```
JAVA ASSIGNMENT > src > Assignment_2.java
Assignment_1.java x Assignment_2.java x
81      {
82          min = Math.abs(a[i] - a[j]);
83          index1 = i;
84          index2 = j;
85      }
86  }
87  }
88  System.out.println("The 2 numbers with the smallest distance are: " + a[index1] + " and " + a[index2]);
89  System.out.println("The index of the first number is: " + index1);
90  System.out.println("\n");
91  }
92  }
93
2 usages
94  class convert
95  {
96      1 usage
97      void array_list()
98      {
99          System.out.println("Converting array to array list");
100          int a[] = {1, 2, 3, 4, 5};
101          ArrayList<Integer> ar = new ArrayList<>();
102          for(int i = 0; i < a.length; i++)
103          {
104              ar.add(a[i]);
105          }
106          System.out.println("Array list: " + ar);
107          System.out.println("\n");
108      }
109  }
```

```
File Edit View Navigate Code Refactor Build Run Tools VCS Window Help JAVA ASSIGNMENT - Assignment_2.java
JAVA ASSIGNMENT > src > Assignment_2.java
Assignment_1.java x Assignment_2.java x
108      }
109
1 usage
110  void array_list_2()
111  {
112      // array list into array
113      ArrayList<Integer> ar = new ArrayList<>();
114      for (int i = 0; i < 5; i++)
115      {
116          ar.add(i);
117      }
118      int a[] = new int[ar.size()];
119      for (int i = 0; i < ar.size(); i++)
120      {
121          a[i] = ar.get(i);
122      }
123      System.out.println("Converting array list to array");
124      System.out.println("Array: ");
125      for (int i = 0; i < a.length; i++)
126      {
127          System.out.print(a[i] + " ");
128      }
129  }
130  }
131
132  |
```

## OUTPUT :



```
"C:\Program Files\Java\jdk-19\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.3\lib\idea_rt.jar=65257:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.3\bin" -Dfile.encoding=UTF-8
Enter 10 numbers:
Enter a number: 20
Enter a number: 1
Enter a number: 20
Enter a number: 8
Enter a number: 20
Enter a number: 20
Enter a number: 20
Enter a number: 19
Enter a number: 17
Enter a number: 13
Enter a number: 13

Even numbers:
20
22
8
24
26
18
Odd numbers:
5
31
17
13

Enter 10 numbers:
```

**GITHUB LINK :** [https://github.com/ananya2285/Java-Assignment-/blob/20a2f9af0f0dc69d6fa7b6c9864e699eb3d063bc/Assignment\\_2.java](https://github.com/ananya2285/Java-Assignment-/blob/20a2f9af0f0dc69d6fa7b6c9864e699eb3d063bc/Assignment_2.java)