

Assignment-2

CODE:

```
// Name: Anurag kumar singh
```

```
// PRN: 21070126016
```

```
// Batch: AIML-A1
```

```
package com.College;

import java.util.Scanner;
import java.util.ArrayList;

public class Assignment_2 {
    public static void main(String arg[])
    {
        even_odd obj1 = new even_odd();
        obj1.accept();
        obj1.display();
        distance obj2 = new distance();
        obj2.smallest_distance();
        convert obj3 = new convert();
        obj3.array_list();
        obj3.array_list_2();
    }
}

class even_odd
{
    int even[] = new int[10];
    int odd[] = new int[10];
    int i, j, k;
```

```
void accept()
{
Scanner obj = new Scanner(System.in);
System.out.println("Enter 10 numbers: ");
for(i = 0; i < 10; i++)
{
System.out.print("Enter a number: ");
int a = obj.nextInt();
if(a % 2 == 0)
{
even[j] = a;
j++;
}
else
{
odd[k] = a;
k++;
}
}
System.out.println("\n");
}

void display()
{
System.out.println("Even numbers: ");
for(i = 0; i < j; i++)
{
System.out.println(even[i]);
}
System.out.println("Odd numbers: ");
```

```

for(i = 0; i < k; i++)
{
    System.out.println(odd[i]);
}
System.out.println("\n");
}
}

class distance
{
    void smallest_distance() {
        Scanner obj = new Scanner(System.in);
        int a[] = new int[10];
        System.out.println("Enter 10 numbers: ");
        for (int i = 0; i < 10; i++) {
            System.out.print("Enter a number: ");
            a[i] = obj.nextInt();
        }
        int i, j, min = 1000, index1 = 0, index2 = 0;
        for (i = 0; i < 10; i++) {
            for (j = i + 1; j < 10; j++) {
                if (Math.abs(a[i] - a[j]) < min) {
                    min = Math.abs(a[i] - a[j]);
                    index1 = i;
                    index2 = j;
                }
            }
        }

        System.out.println("The 2 numbers with the smallest distance are: " + a[index1] + " and " + a[index2]);

        System.out.println("The index of the first number is: " + index1);
    }
}

```

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System.out.println("\n");
}
}

class convert
{
void array_list()
{
System.out.println("Converting array to array list");
int a[] = {1, 2, 3, 4, 5};
ArrayList<Integer> ar = new ArrayList<Integer>();
for(int i = 0; i < a.length; i++)
{
ar.add(a[i]);
}
System.out.println("Array list: "+ ar);
System.out.println("\n");
}

void array_list_2()
{
//array list into array
ArrayList<Integer> ar = new ArrayList<Integer>();
for (int i= 0 ; i < 5; i++)
{
ar.add(i);
}
int a[] = new int[ar.size()];
for (int i = 0; i < ar.size(); i++)
{
a[i] = ar.get(i);
}
}
}

```

```
}  
System.out.println("Converting array list to array");  
System.out.println("Array: " );  
for (int i = 0; i < a.length; i++)  
{  
    System.out.print(a[i] + " ");  
}  
}  
}
```

OUTPUT:

Enter 10 numbers:

Enter a number: 6

Enter a number: 9

Enter a number: 4

Enter a number: 5

Enter a number: 0

Enter a number: 69

Enter a number: 420

Enter a number: 021

Enter a number: 97

Enter a number: 49

Even numbers:

6

4

0

420

Odd numbers:

9

5

69

21

97

49

Enter 10 numbers:

Enter a number: 2

Enter a number: 13

Enter a number: 56

Enter a number: 89

Enter a number: 12

Enter a number: 11

Enter a number: 54

Enter a number: 32

Enter a number: 99

Enter a number: 108

The 2 numbers with the smallest distance are: 13 and 12

The index of the first number is: 1

Converting array to array list

Array list: [1, 2, 3, 4, 5]

Converting array list to array

Array:

0 1 2 3 4

Github link:

https://github.com/Boomsnipa/Java_assignments