

```

import java.util.*;

class GFG {

    public static int Minm(int arr[], int i,
                           int sumCalculated,
                           int sumTotal)
    {
        if (i == 0)
            return Math.abs((sumTotal - sumCalculated)
                            - sumCalculated);

        return Math.min(
            Minm(arr, i - 1,
                 sumCalculated + arr[i - 1],
                 sumTotal),
            Minm(arr, i - 1, sumCalculated,
                 sumTotal));
    }

    public static int findMin(int arr[], int n)
    {
        int sumTotal = 0;
        for (int i = 0; i < n; i++)
            sumTotal += arr[i];

        return Minm(arr, n, 0, sumTotal);
    }

    //test case 1:

    public static void main(String[] args)
    {
        int arr[] = { 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 };
        int n = arr.length;
        System.out.print("Minimum difference"
                        + " between two lists: "
                        + findMin(arr, n));
        System.out.print("\n");
    }
}

```

```
}
```

### Output:

```
harshavaidhyam@Harshas-MacBook-Pro assignment1 % cd
/Users/harshavaidhyam/Desktop/Pitt\ term-1/Algo\ Design/assignment1 ; /usr/bin/env /Library/Java/JavaVirtualMachines/temurin-17.jdk/Contents/Home/bin/java -XX:+ShowCodeDetailsInExceptionMessages -cp /Users/harshavaidhyam/Desktop/Pitt\ term-1/Algo\ Design/assignment1/bin GFG
```

**Minimum difference between two lists: 1**

### For Test case 2:

```
import java.util.*;

class GFG {

    public static int Minm(int arr[], int i,
                           int sumCalculated,
                           int sumTotal)
    {

        if (i == 0)
            return Math.abs((sumTotal - sumCalculated)
                             - sumCalculated);

        return Math.min(
            Minm(arr, i - 1,
                 sumCalculated + arr[i - 1],
                 sumTotal),
            Minm(arr, i - 1, sumCalculated,
                 sumTotal));
    }

    public static int findMin(int arr[], int n)
    {

        int sumTotal = 0;
        for (int i = 0; i < n; i++)
            sumTotal += arr[i];
    }
}
```

```

        return Minm(arr, n, 0, sumTotal);
    }

    //test case 1:

    public static void main(String[] args)
    {
        int arr[] = { 10, 20, 15, 5, 25, 100 };
        int n = arr.length;
        System.out.print("Minimum difference"
            + " between two lists: "
            + findMin(arr, n));
        System.out.print("\n");
    }
}

```

## Output:

```

harshavaidhyam@Harshas-MacBook-Pro assignment1 % cd
/Users/harshavaidhyam/Desktop/Pitt\ term-1/Algo\ Design/assignment1 ; /usr/bin/env /Li
brary/Java/JavaVirtualMachines/temurin-17.jdk/Contents/Home/bin/java -
XX:+ShowCodeDetailsInExceptionMessages -cp /Users/harshavaidhyam/Desk
top/Pitt\ term-1/Algo\ Design/assignment1/bin GFG
Minimum difference between two lists: 25

```

## Screenshot of output:

The screenshot shows a code editor with the following Java code:

```

41 public static void main(String[] args)
42 {
43     int arr[] = { 10, 20, 15, 5, 25, 100 };
44     int n = arr.length;
45     System.out.print("Minimum difference"
46         + " between two lists: "
47         + findMin(arr, n));
48     System.out.print("\n");
49 }
50 }
51
52
53

```

Below the code, the terminal output is displayed:

```

top/Pitt\ term-1/Algo\ Design/assignment1/bin GFG
Minimum difference between two lists: 1
harshavaidhyam@Harshas-MacBook-Pro assignment1 % cd /Users/harshavaidhyam/Desktop/Pitt\ term-1/Algo\ Design/assignment1 ; /usr/bin/env /Li
brary/Java/JavaVirtualMachines/temurin-17.jdk/Contents/Home/bin/java -XX:+ShowCodeDetailsInExceptionMessages -cp /Users/harshavaidhyam/Desk
top/Pitt\ term-1/Algo\ Design/assignment1/bin GFG
Minimum difference between two lists: 1
harshavaidhyam@Harshas-MacBook-Pro assignment1 % cd /Users/harshavaidhyam/Desktop/Pitt\ term-1/Algo\ Design/assignment1 ; /usr/bin/env /Li
brary/Java/JavaVirtualMachines/temurin-17.jdk/Contents/Home/bin/java -XX:+ShowCodeDetailsInExceptionMessages -cp /Users/harshavaidhyam/Desk
top/Pitt\ term-1/Algo\ Design/assignment1/bin GFG
Minimum difference between two lists: 25
harshavaidhyam@Harshas-MacBook-Pro assignment1 %

```

The terminal window also shows the command prompt and the output of the Java program, which is "Minimum difference between two lists: 25".