

```
import java.util.*;  
  
public class OptimalStorage  
{  
    public static void main(String[] args)  
    {  
        Scanner sc = new Scanner(System.in);  
  
        // Take number of programs  
        System.out.print("Enter number of programs: ");  
        int n = sc.nextInt();  
  
        int[] lengths = new int[n];  
        System.out.println("Enter lengths of programs:");  
        for (int i = 0; i < n; i++)  
        {  
            lengths[i] = sc.nextInt();  
        }  
  
        // Sort program lengths  
        Arrays.sort(lengths);  
  
        int totalRetrievalTime = 0;  
        int cumulativeTime = 0;  
  
        // Calculate total retrieval time  
        for (int i = 0; i < n; i++)  
        {
```

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        cumulativeTime += lengths[i];

        totalRetrievalTime += cumulativeTime;

    }

    // Calculate MRT

    double mrt = (double) totalRetrievalTime / n;

    // Print only MRT

    System.out.println("Mean Retrieval Time (MRT) = " + mrt);

    sc.close();

}

}
```

OUTPUT:

```
Enter number of programs: 8
Enter lengths of programs:
12
5
8
32
7
5
8
13
Mean Retrieval Time (MRT) = 35.375
```