

22 Apr 2023

NS 22 Apr 2023

J Main.java 1 x

J Main.java > Main > main(String[])

```
1 // https://my.newtonschoo1.co/playground/code/qmggz2y9icjj/
2 import java.util.*;
3 public class Main
4 {
5     public static void main(String[] args)
6     {
7         Scanner sc = new Scanner(System.in); ✓
8         int n = sc.nextInt(); ✓
9         int arr[] = new int[n];
10        for(int i=0; i<n; i++)
11        {
12            arr[i] = sc.nextInt(); ✓
13        }
14        Arrays.sort(arr); ✓
15        int sum = 0; ✓
16        for(int i=n-1; i>=n-4; i--) ←
17        {
18            sum += arr[i];
19        }
20        System.out.println(sum);
21    }
22 }
```

Run | Debug

arr

0	1	2	3	4	5
3	1	6	9	4	6

n=6

sort ↓

arr

0	1	2	3	4	5
1	3	4	6	6	9

n=6

Sum = 0

= 0 + 9

= 9 + 6

= 15 + 6

= 21 + 4

= 25

i = 5, 4, 3, 2, 1

PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL

6
3 1 6 9 4 6
25

(base) ingledarshan@192 NS 22 Apr 2023 %

Ln 16, Col 33 Spaces: 4 UTF-8 LF () Java

Counting Sort: sorting arr. to keys
counting the elements having distinct keys

$a = [0, 2, 1, 0, 1, 1, 5, 6, 7, 5, 4, 2, 2, 0, 0, 1]$

$n = 17$

$[0-7]$ Uniquenos = $\{0, 1, 2, 4, 5, 6, 7\}$ $\therefore 7$ in all.

$$0 \leq a[i] \leq k$$

$k = 9$

$n = 17$

	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
a	2	1	1	0	2	5	4	0	2	8	7	7	9	2	0	1	9

	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	0	1	2	3	4	5	6	7	8	9							
count	0 3	x 3	x 4	0	0 1	0 1	0	0 2	0 1	0 2							

for (i=0; i<n; i++)
++ count[a[i]];

rewriting

	0	1	2	3	4	5	6	7	8	9
count	3	3	4	0	1	1	0	2	1	2

	0	1	2	3	4	5	6	7	8	9
count	3 10	3 4	4 7	10	1 10	1 11	12	2 12	1 13	2 15

for (i=1; i<=k; i++)

count[i] = count[i] + count[i-1];

for (i=n-1; i>0; i--)

b[--count[a[i]]] = a[i];

AB	MONTH	12	Amount	12	CUM_SUM
01			10		10
02			20		30
03			30		60
04			40		100
05			50		150
06			60		210
07			70		280
08			80		360
09			90		450
10			100		550
11			110		660
12			120		780

Cumulative Addition

22 Apr 2023

rewriting

	0	1	2	3	4	5	6	7	8	9
Count	3	2 6	4 10	6 10	8 11	10 12	12 12	14 14	16 15	18 17

Count	3	6	10	10	11	12	12	14	15	17
-------	---	---	----	----	----	----	----	----	----	----

for (i=1; i<=k; i++)
count[i] = count[i] + count[i-1];

AB	MONTH	12	Amount	12	CUM_SUM
01			10		10

X