1. **Ensure the program is working properly**
   1. **Algorithm 1**

Which algorithm do you want to run? 1

What is the initial size of the array? 3

Running with input size of 3

========================================

Run #1 on input size 3 took 0.00000 sec.

Run #2 on input size 3 took 0.00000 sec.

Run #3 on input size 3 took 0.00000 sec.

Input Array with size 3

========================================

[48, 9, 18]

Output Array with size 3

========================================

48.000, 28.500, 25.000

* 1. **Algorithm 2**

Which algorithm do you want to run? 2

What is the initial size of the array? 4

Running with input size of 4

========================================

Run #1 on input size 4 took 0.00000 sec.

Run #2 on input size 4 took 0.00000 sec.

Run #3 on input size 4 took 0.00000 sec.

Input Array with size 4

========================================

[35, 92, 93, 37]

Output Array with size 4

========================================

35.000, 63.500, 73.333, 64.250

1. **Records**
   1. **Algorithm 1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input Size** | **#1** | **#2** | **#3** | **Average** |
| 10000 | 1.80 | 1.79 | 1.80 | 1.80 |
| 20000 | 7.31 | 7.42 | 7.26 | 7.33 |
| 30000 | 16.36 | 16.56 | 16.44 | 16.45 |
| 40000 | 31.87 | 32.46 | 34.44 | 32.92 |
| 50000 | 48.03 | 48.32 | 48.32 | 48.22 |

* 1. **Algorithm 2**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Input Size** | **#1** | **#2** | **#3** | **Average** |
| 100000 | 0.12 | 0.13 | 0.13 | 0.13 |
| 200000 | 0.25 | 0.27 | 0.26 | 0.26 |
| 300000 | 0.38 | 0.41 | 0.37 | 0.39 |
| 400000 | 0.48 | 0.53 | 0.54 | 0.52 |
| 500000 | 0.6 | 0.62 | 0.62 | 0.61 |