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Insertion sort output:

```
~/ada/lab5/ $ ./insertionsort
How many elements do you want to enter: 1
Do you want to enter the elements?
y
Enter the elements of the array: 1
After sorting:
1
```

```
time taken = 0.000001 seconds
~/ada/lab5/ $ ./insertionsort
How many elements do you want to enter: 2
Do you want to enter the elements?
y
Enter the elements of the array: 1 2
After sorting:
1 2
```

```
time taken = 0.010001 seconds
~/ada/lab5/ $ ./insertionsort
How many elements do you want to enter: 3
Do you want to enter the elements?
y
Enter the elements of the array: 1 2 3
After sorting:
1 2 3
```

```
time taken = 0.020002 seconds
~/ada/lab5/ $ ./insertionsort
How many elements do you want to enter: 4
Do you want to enter the elements?
y
Enter the elements of the array: 1 2 3 4
After sorting:
1 2 3 4
```

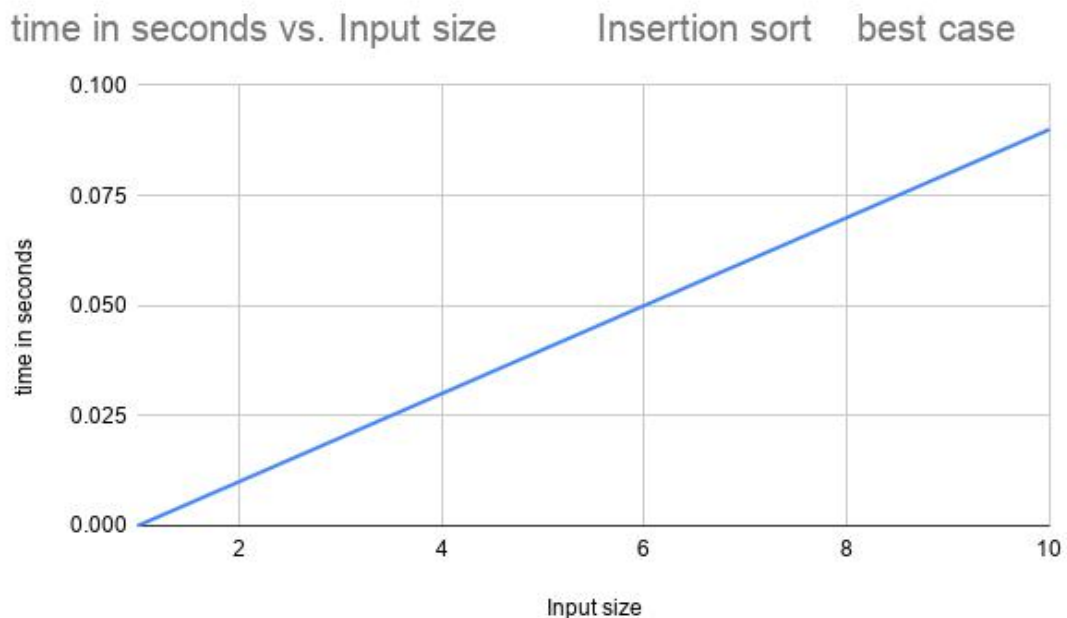
```
time taken = 0.030001 seconds
~/ada/lab5/ $ ./insertionsort
How many elements do you want to enter: 5
Do you want to enter the elements?
y
Enter the elements of the array: 1 2 3 4 5
After sorting:
1 2 3 4 5
```

```
time taken = 0.040001 seconds
~/ada/lab5/ $ ./insertionsort
How many elements do you want to enter: 7
Do you want to enter the elements?
y
Enter the elements of the array: 1 2 3 4 5 6 7
After sorting:
1 2 3 4 5 6 7
```

```
time taken = 0.060003 seconds
```

| Input size | time in seconds |
|------------|-----------------|
| 1 | 0.000001 |
| 2 | 0.010001 |
| 3 | 0.020002 |
| 4 | 0.030001 |
| 5 | 0.040001 |
| 7 | 0.060003 |

Delay time used is 0.01 s



```
~/ada/lab5/ $ ./insertionsort
How many elements do you want to enter: 2
Do you want to enter the elements?
y
Enter the elements of the array: 2 1
After sorting:
1 2
```

```
time taken = 0.020003 seconds
~/ada/lab5/ $ ./insertionsort
How many elements do you want to enter: 3
Do you want to enter the elements?
y
Enter the elements of the array: 3
3 2 1
After sorting:
```

2 3 3

```
time taken = 0.040004 seconds
~/ada/lab5/ $ ./insertionsort
How many elements do you want to enter: 4
Do you want to enter the elements?
y
Enter the elements of the array: 4 3 2 1
After sorting:
1 2 3 4
```

```
time taken = 0.090006 seconds
~/ada/lab5/ $ ./insertionsort
How many elements do you want to enter: y
Do you want to enter the elements?
Enter the elements of the array: After sorting:
```

```
time taken = 0.000001 seconds
~/ada/lab5/ $ ./insertionsort
How many elements do you want to enter: 5
Do you want to enter the elements?
y
Enter the elements of the array: 5 4 3 2 1
After sorting:
1 2 3 4 5
```

```
time taken = 0.140004 seconds
~/ada/lab5/ $ ./insertionsort
How many elements do you want to enter: 6
Do you want to enter the elements?
y
Enter the elements of the array: 6 5 4 3 2 1
After sorting:
1 2 3 4 5 6
```

```
time taken = 0.200008 seconds
~/ada/lab5/ $ ./insertionsort
How many elements do you want to enter: 8
Do you want to enter the elements?
y
Enter the elements of the array: 8 7 6 5 4 3 2 1
After sorting:
1 2 3 4 5 6 7 8
```

```
time taken = 0.350018 seconds
~/ada/lab5/ $ ./insertionsort
How many elements do you want to enter: 10\
Do you want to enter the elements?
After sorting:
729 2003 2382 2767 2971 3995 4525 4806 6226 6903
```

```
time taken = 0.400020 seconds
~/ada/lab5/ $ ./insertionsort
How many elements do you want to enter: 10
Do you want to enter the elements?
y
Enter the elements of the array: 9 8 7 6 5 4 3 2 1 0
After sorting:
```

0 1 2 3 4 5 6 7 8 9

time taken = 0.540022 seconds
~/ada/lab5/ \$

| input size | time in seconds |
|------------|-----------------|
| 1 | 0.000001 |
| 2 | 0.020003 |
| 3 | 0.040004 |
| 4 | 0.090006 |
| 5 | 0.140004 |
| 6 | 0.200008 |
| 8 | 0.350018 |
| 10 | 0.540022 |

Delay time used is 0.01 s

time in seconds vs. input size insertion sort worst case
Mahantesh Gattina

