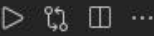


q.c M x



q.c > main()

```
1 //20UCS176 -- Chiradeep Banik
2
3 //Question---Find out the time consumed by a Bubble Sort program.
4
5 #include <stdio.h>
6 #include <time.h>
7
8 void swap(int *num1, int *num2)
9 {
10     int temp = *num1;
11     *num1 = *num2;
12     *num2 = temp;
13 }
14
15 int *bubbleSort(int *ar, int len)
16 {
17     for (int i = 0; i < len; i++)
18     {
19         int swapped = -1;
20         for (int j = 0; j < len - i; j++)
21         {
22             if (ar[j] > ar[j + 1])
23             {
24                 swap(&ar[j], &ar[j + 1]);
25                 swapped = 1;
26             }
27         }
28         if (swapped == -1)
29         {
30             break;
31         }
```

q.c M X

q.c > main()

```
30         break;
31     }
32 }
33 return ar;
34 }
35
36 void printArray(int *arr, int length)
37 {
38     for (int i = 0; i < length; i++)
39     {
40         printf("%d ", arr[i]);
41     }
42     printf("\n");
43 }
44
45 void main()
46 {
47     int arr[] = {5, 4, 3, 2, 1};
48     int length = sizeof(arr) / sizeof(arr[0]);
49
50     time_t startTick, endTick;
51
52     startTick = clock();
53     int *p = bubbleSort(arr, length);
54     endTick = clock();
55     printArray(p, length);
56     time_t ticksTaken = endTick - startTick;
57     double timeTaken = ticksTaken / (double)CLOCKS_PER_SEC;
58
59     printf("Time taken: %lf s \n", timeTaken);
60 }
```

PROBLEMS TERMINAL DEBUG CONSOLE

bash + ▾ □ 🗑 ^ ×

(11:49:06) ~/Desktop/Code/College-4th-Sem/DAA-Lab-Assignment-1 (main) (banik)

| -->> ./q

1 2 3 4 5

Time taken: 0.000003 s

(11:50:36) ~/Desktop/Code/College-4th-Sem/DAA-Lab-Assignment-1 (main) (banik)

| -->> |