

EXPERIMENT-8

TO FIND BUBBLE SORT

PROGRAM:

Programiz Python Online Compiler

```
main.py
```

The screenshot shows the Programiz Python Online Compiler interface. The code editor contains a Python script named 'main.py' with the following content:

```
1 def bubble_sort(arr):
2     n = len(arr)
3     for i in range(n):
4         for j in range(0, n-i-1):
5             if arr[j] > arr[j+1]:
6                 arr[j], arr[j+1] = arr[j+1], arr[j]
7     return arr
8 nums = [5, 2, 3, 1, 4]
9 sorted_nums = bubble_sort(nums)
10 print("Sorted array:", sorted_nums)
11
12
13
```

The code defines a function 'bubble_sort' that takes an array 'arr' as input. It uses two nested loops to iterate through the array. The outer loop runs from 0 to n-1, and the inner loop runs from 0 to n-i-1. Inside the inner loop, it checks if the current element 'arr[j]' is greater than the next element 'arr[j+1]'. If yes, it swaps them using tuple assignment. Finally, it returns the sorted array. The main part of the code creates an array 'nums' with values [5, 2, 3, 1, 4], calls the 'bubble_sort' function, and prints the sorted array.

OUTPUT:

Program

Output

```
Sorted array: [1, 2, 3, 4, 5]
== Code Execution Successful ==
```

The screenshot shows the output window of the Programiz Python Online Compiler. It displays the word 'Output' at the top. Below it, the output of the program is shown, consisting of the sorted array '[1, 2, 3, 4, 5]' and the message '== Code Execution Successful =='.