Bobble sort in python

Learning Level: beginner
Topic: Bobble sort in python

Definition

Bobble sort is a simple way to sort lists of items in order. It works by repeatedly going through the list and swapping items that are in the wrong order. This process is repeated until the list is sorted.

Explanation

Imagine you have a bunch of toys in a box, and you want to put them in order from smallest to largest. Bobble sort is like looking through the box, finding a toy that is too big or too small, and swapping it with the one next to it. You keep doing this until all the toys are in the right order. In programming, we use a similar process to sort lists of numbers or words. We look at each item in the list, compare it to the one next to it, and swap them if they are in the wrong order.

💻 Syntax & Usage

```
# Import no modules needed for bobble sort
def bobble_sort(my_list):  # Define a function called bobble_sort# Get
    # Repeat the process until the list is sortedfor i in range(length
        # Look at each item in the listfor j in range(length - 1):
            # If the current item is bigger than the next one, swap t
                # Swap the two itemsmy_list[j], my_list[j + 1] = my_l
    # Return the sorted listreturn my_list

# Call the function with a list
my_list = [5, 2, 8, 1, 9]
```

```
sorted_list = bobble_sort(my_list)
# Print the sorted list
print(sorted_list)
```

Key Points

Bobble sort is simple: It's easy to understand and use, but it's not the fastest way to sort lists.

It works by swapping items: Bobble sort looks at each item in the list and swaps it with the one next to it if they are in the wrong order.

It repeats the process: Bobble sort keeps looking at the list and swapping items until the list is sorted.

Simple Examples

Example 1: Sorting a list of numbers

```
# Define a list of numbers
numbers = [4, 2, 7, 1, 3]
# Call the bobble_sort function
sorted_numbers = bobble_sort(numbers)
# Print the sorted list
print(sorted_numbers)  # Output: [1, 2, 3, 4, 7]
```

Example 2: Sorting a list of words

```
# Define a list of words
words = ['cat', 'apple', 'banana', 'dog']
# Call the bobble_sort function
sorted_words = bobble_sort(words)
# Print the sorted list
print(sorted_words)  # Output: ['apple', 'banana', 'cat', 'dog']
```

Practice Set

Exercise 1: Sort the list [6, 3, 8, 2, 9] using bobble sort.

Exercise 2: Sort the list ['dog', 'cat', 'apple', 'banana'] using bobble sort.

Exercise 3: Create your own list of 5 items and sort it using bobble sort.