```
1: def shell_sort(collection):
        gaps = [701, 301, 132, 57, 23, 10, 4, 1]
 3:
        for gap in gaps:
 4:
            i = qap
 5:
            while i < len(collection):</pre>
 6:
                temp = collection[i]
                j = i
 7:
 8:
                while j >= gap and collection[j - gap] > temp:
 9:
                     collection[j] = collection[j - gap]
                     j -= gap
10:
11:
                collection[j] = temp
12:
                i += 1
13:
        return collection
14:
15:
16: def set_x():
17:
        global x
18:
        x = 2
19:
        shell_sort([1, 2, 3, 4])
20:
21:
22: # Global from ... import ... statement for commonly used functions
23: from random import randint as global_randint, choice
24:
25: # Global variable definition
26: global_counter = 0
27:
28: # Define a class with a method that includes a nested function
29: class Counter:
30:
        def __init__(self):
31:
            # Instance variable to track counts
32:
            self.count = 0
33:
34:
        def update_counter(self):
35:
             # Local import within the function for demonstration
36:
            import time
37:
38:
            # Method variable
39:
            method\_counter = 0
40:
41:
            def increment():
                # Use nonlocal to modify method_counter
42:
43:
                nonlocal method counter
44:
                # Use global to modify the global_counter
45:
                global global_counter
46:
47:
                try:
48:
                     # Use the globally imported global_randint function directly
```

## function\_class\_definition\_and\_imports.py

```
49:
                    increment = global_randint(1, 10)
50:
                    # Simulate a random error
51:
                    if choice([True, False]):
52:
                        raise ValueError("Simulated error")
53:
54:
                    method_counter += increment
55:
                    global counter += increment
56:
                    self.count += increment
57:
58:
                    # Demonstrating the use of the locally imported time module
59:
                    time.sleep(1) # Sleep for 1 second to simulate a delay
60:
61:
                    print(f"Method counter incremented by {increment}, total method counter: {method_counter}")
62:
                    print(f"Global counter updated to {global_counter}, instance counter: {self.count}")
63:
64:
                except ValueError as e:
65:
                    print(f"Exception caught: {e}")
66:
67:
            increment()
68:
69: # Instantiate the class and call the method
70: counter_instance = Counter()
```