76. Closest-Pair

Code:

```
import math
def closest_pair_brute_force(points):
    n = len(points)
    if n < 2:
        return None, float('inf')

    min_distance = float('inf')
    closest_pair = (None, None)

    for i in range(n):
        for j in range(i + 1, n):
            p1 = points[i]
            p2 = points[j]
            distance = math.sqrt((p1[0] - p2[0]) ** 2 + (p1[1] - p2[1]) ** 2)
            if distance < min_distance:
                min_distance = distance
                closest_pair = (p1, p2)

    return closest_pair, min_distance
points = [(1, 1), (2, 2), (3, 3), (4, 4), (5, 5)]
closest_pair, min_distance = closest_pair_brute_force(points)
print(f"Closest pair: {closest_pair}, Distance: {min_distance}")
```

Output:

```
Closest pair: ((1, 1), (2, 2)), Distance: 1.4142135623730951
```

Time Complexity:

- T(n)= O(nlogn)