**PRAKTIKUM ALGORITMA & STRUKTUR DATA**

Implementasi Quick & Merge sort

Sebuah gambar berisi Grafis, papan klip, logo, Font

Deskripsi dibuat secara otomatis

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**Politeknik Elektronika Negeri Surabaya**

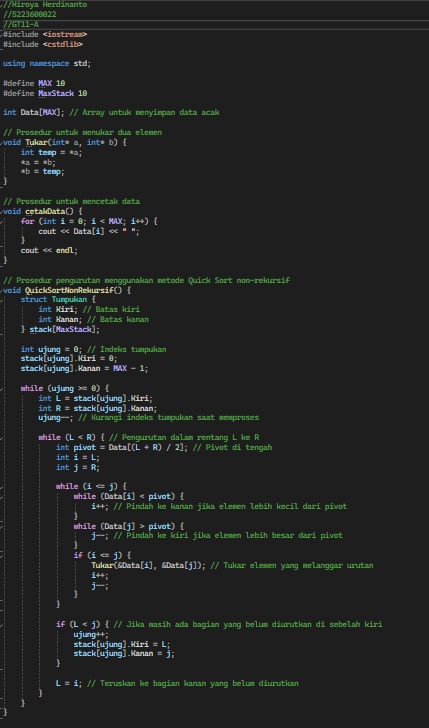
**2024**

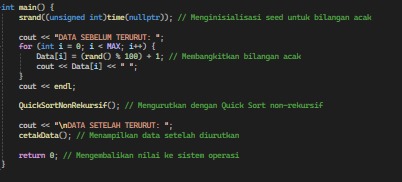
**Quick & Merge sort**

* **Percobaan**

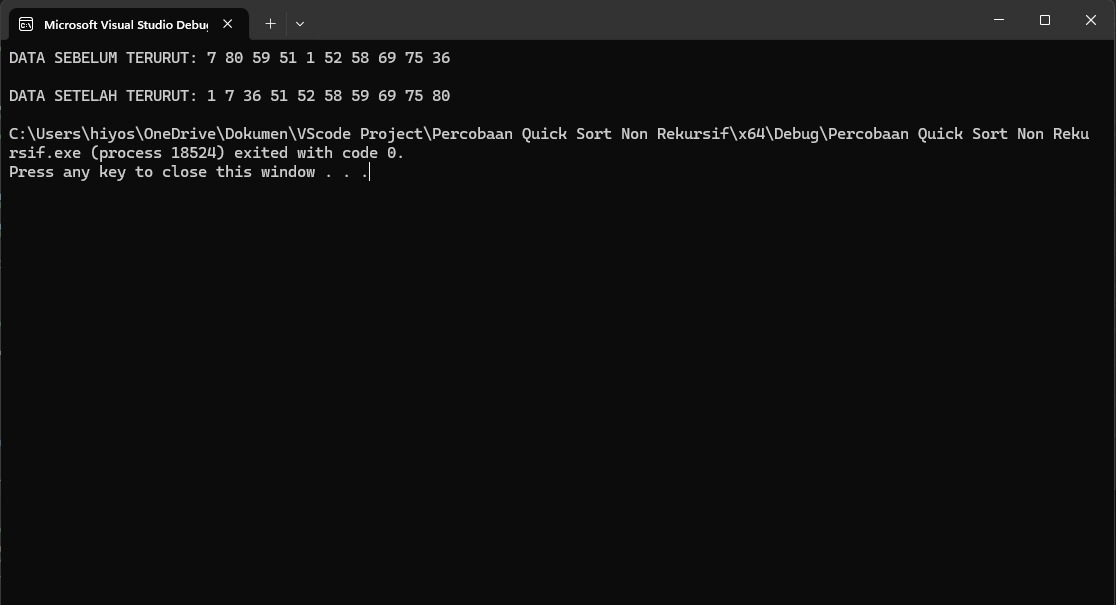
1. Implementasi pengurutan dengan metode *Quick sort* non-rekursif.

Source Code:



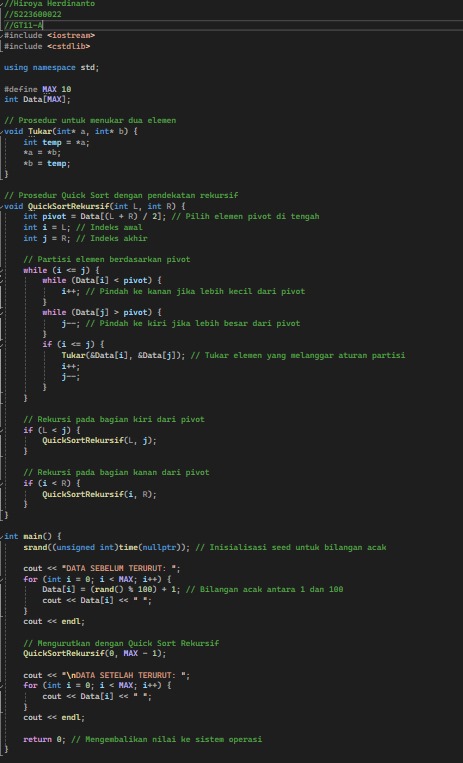


Output:

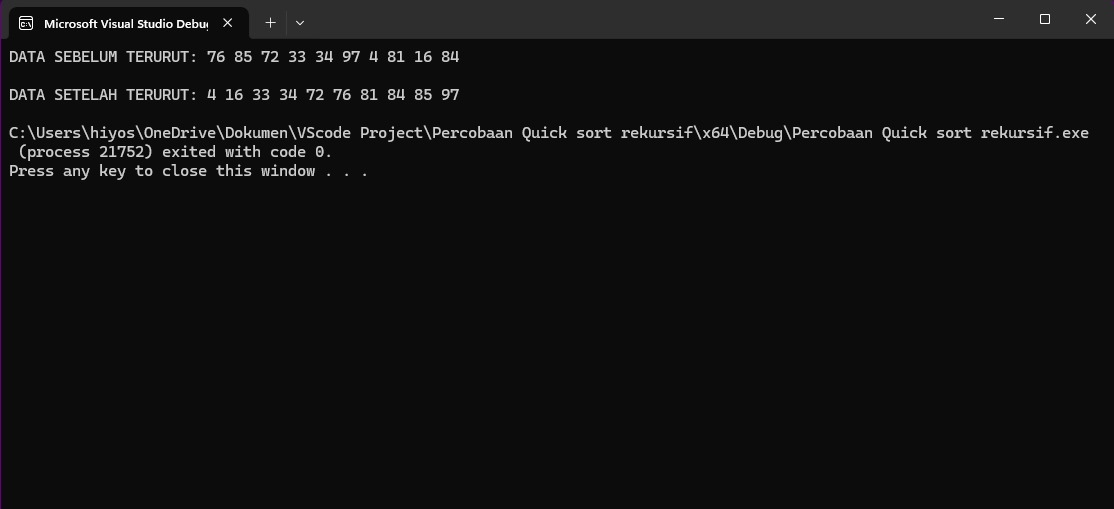


1. Implementasi pengurutan dengan metode *Quick sort* rekursif.

Source Code:

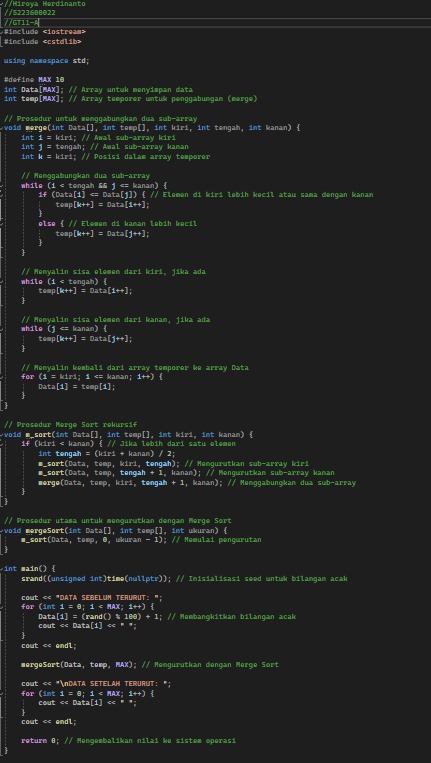


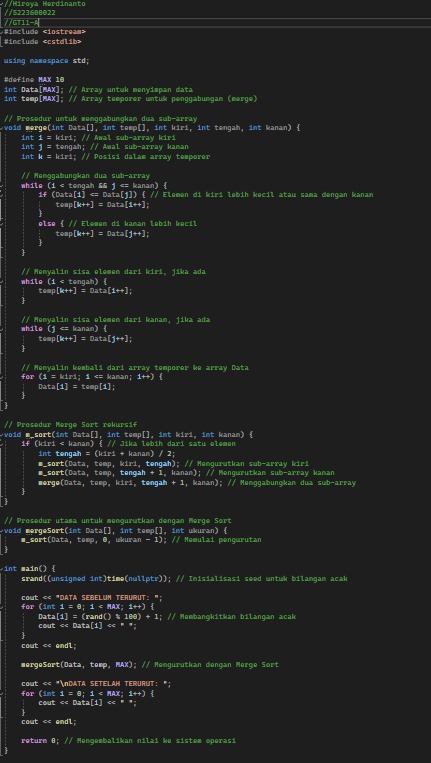
Output:



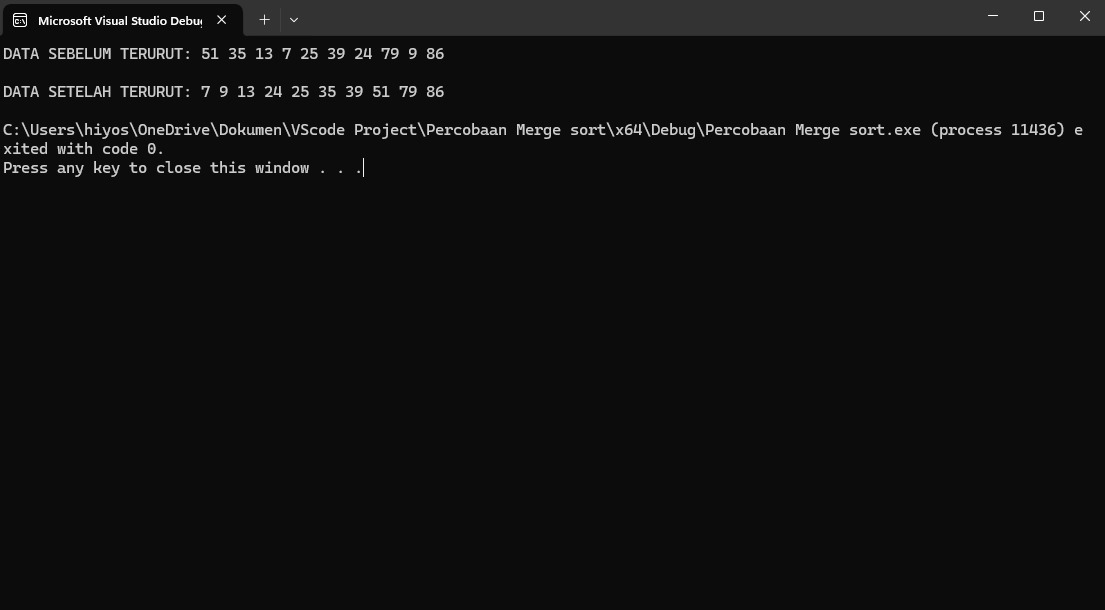
1. Implementasi pengurutan dengan metode *Merge sort.*

Source Code:





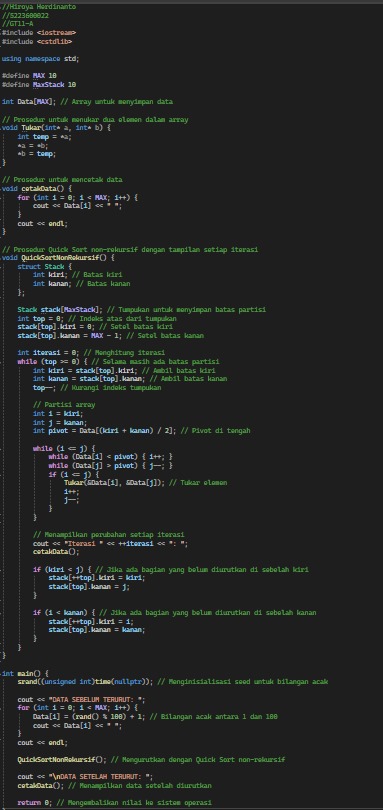
Output:

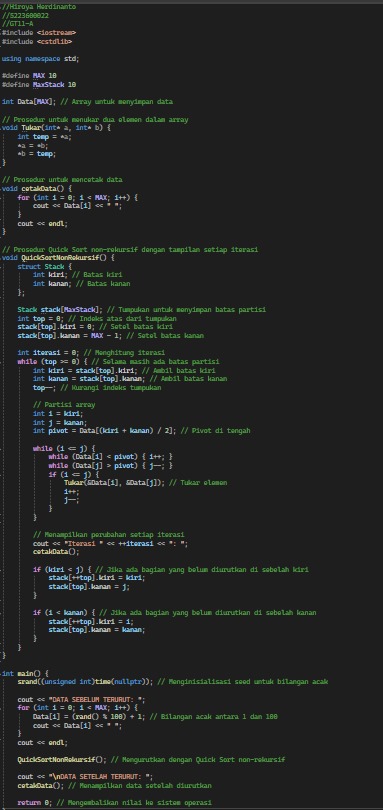


* **Latihan**

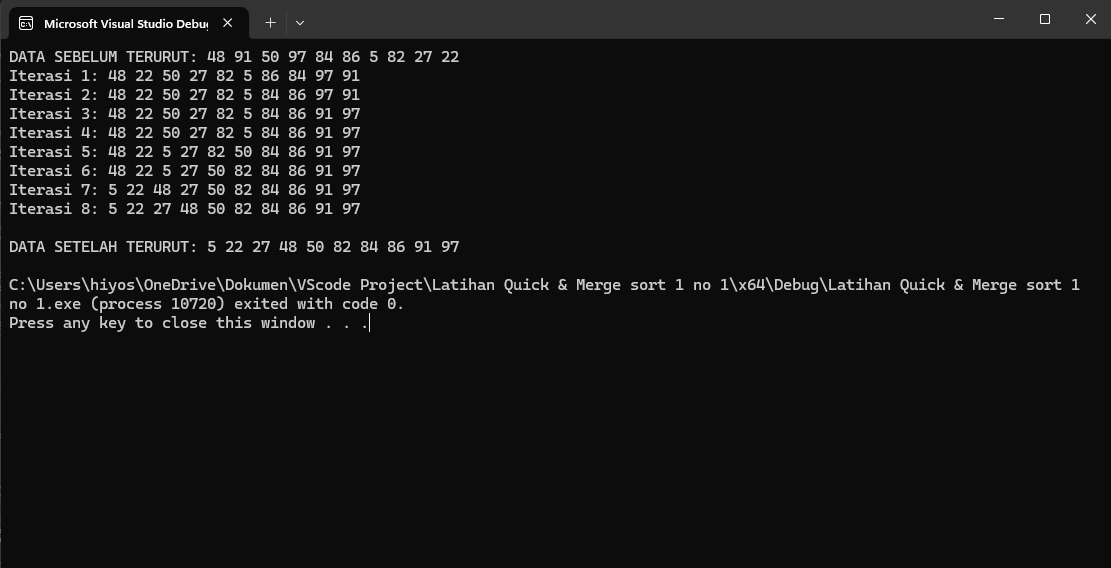
1. Tambahkan kode program untuk menampilkan perubahan setiap iterasi dari proses pengurutan dengan *Quick sort* dan *Merge sort*.

Source Code (Quick sort non-rekursif):

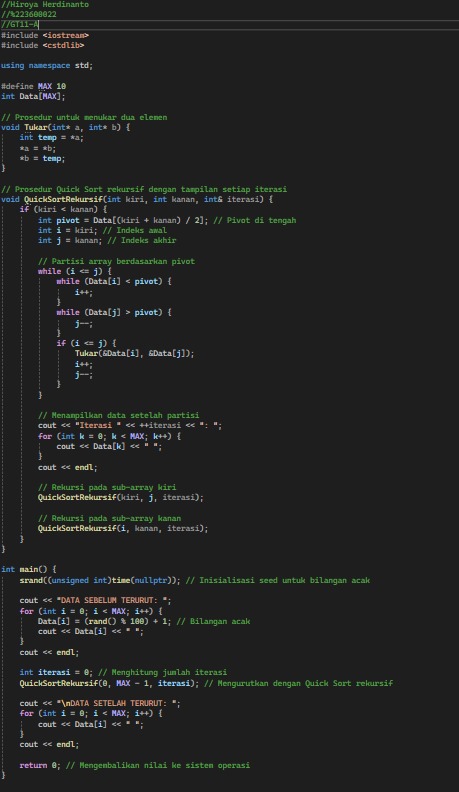




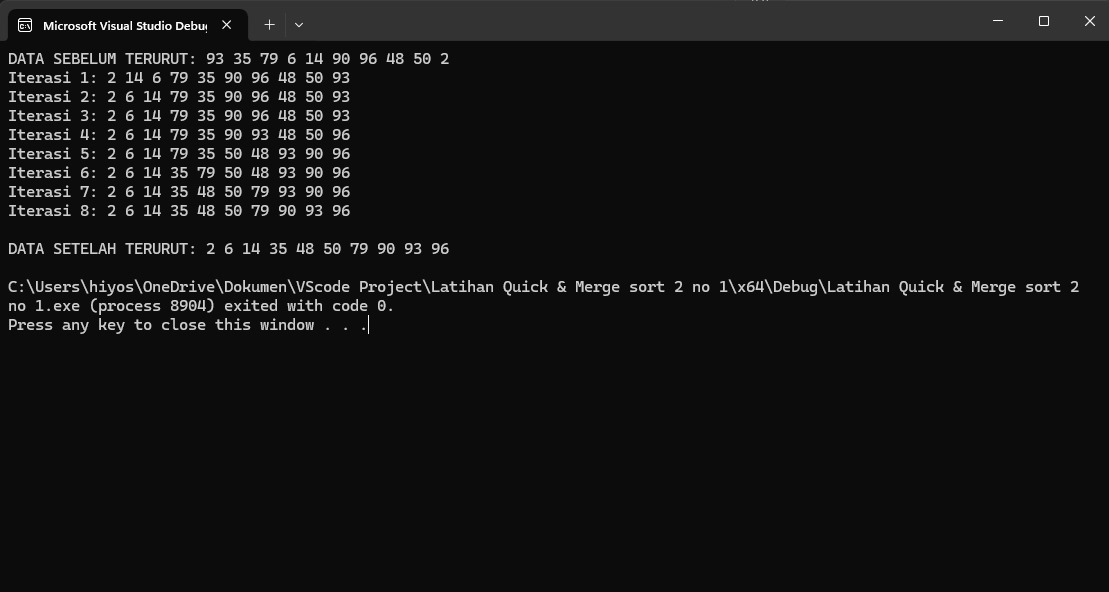
Output:

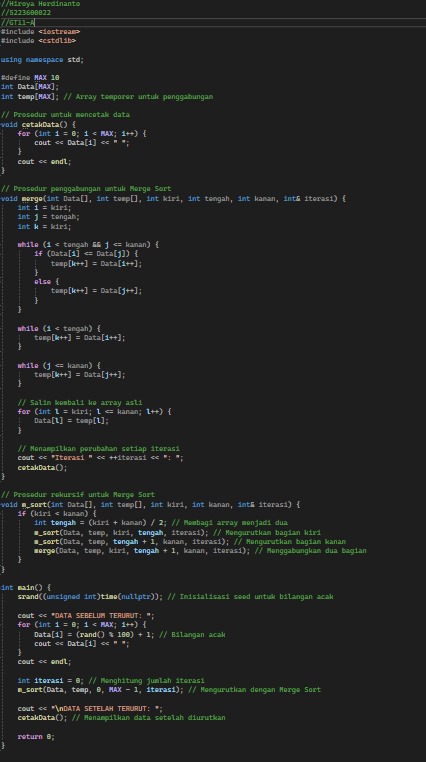


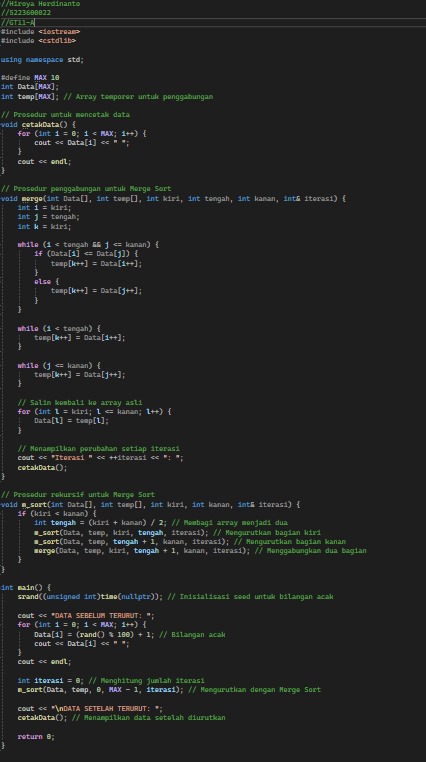
Source Code(*Quick sort* rekursif):



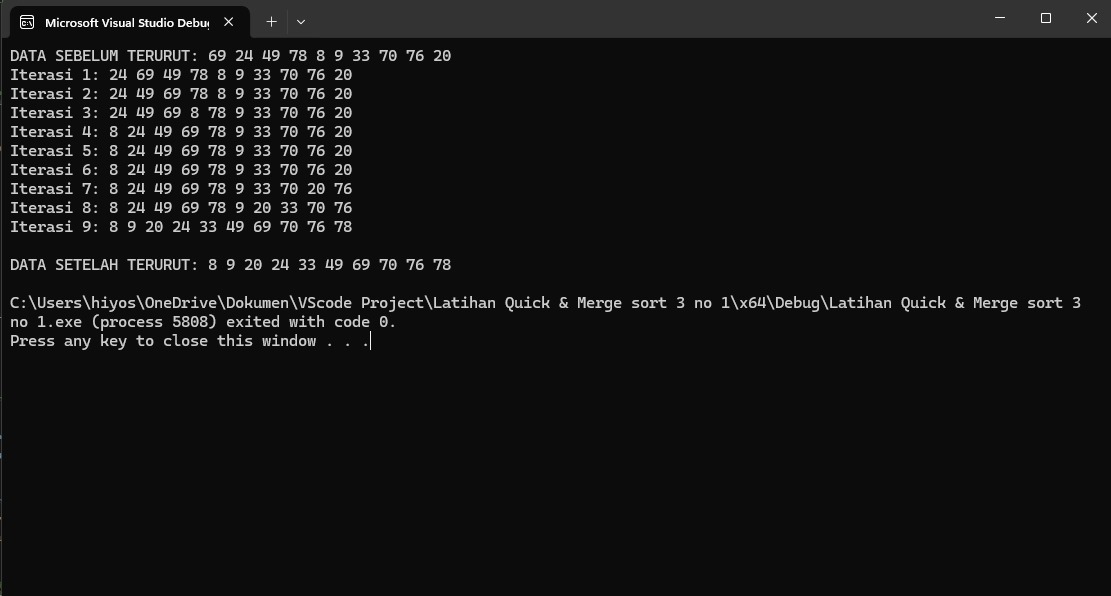
Output:



Source Code(*Merge sort*):

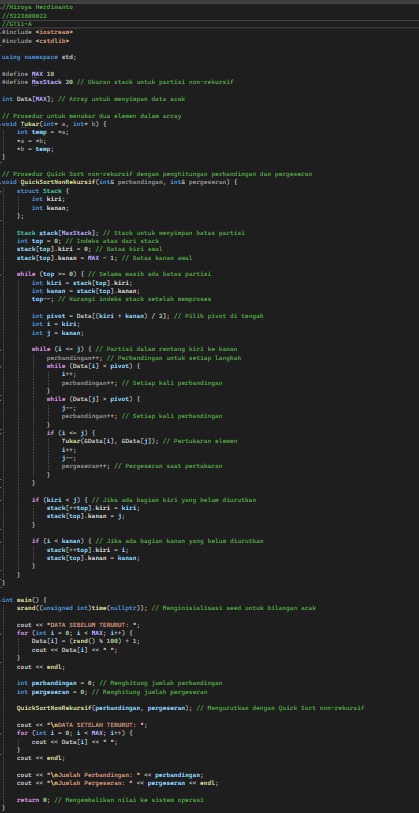


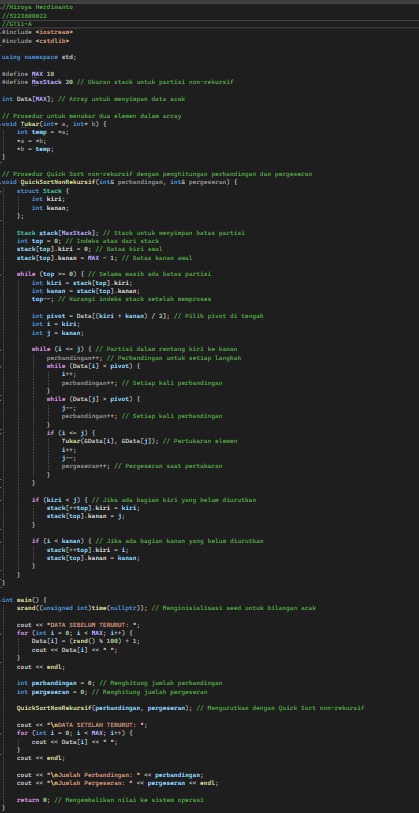
Output:



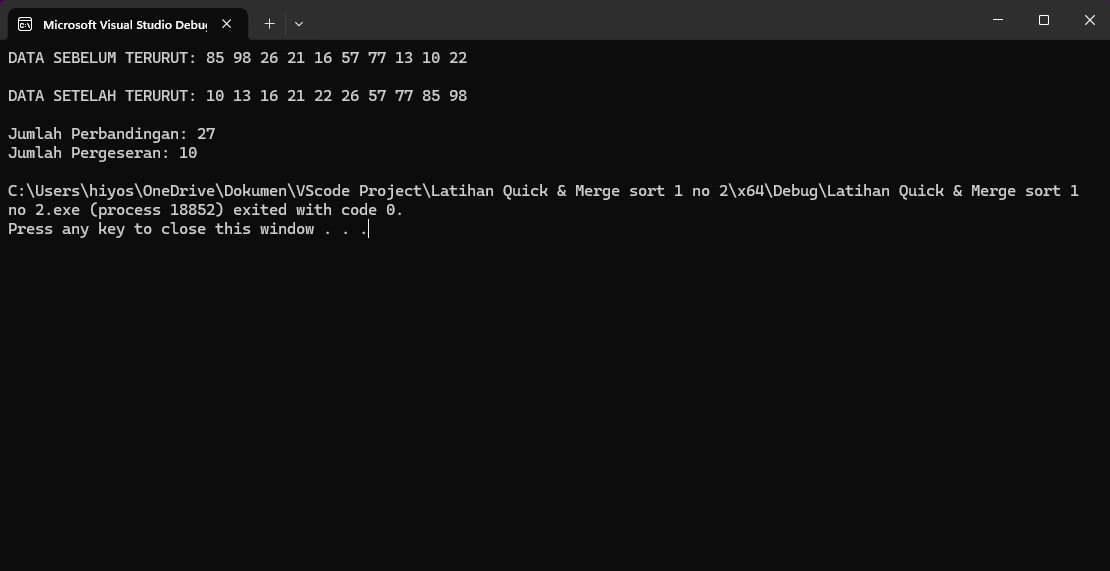
1. Tambahkan kode program untuk menghitung banyaknya perbandingan dan pergeseran pada algoritma *Quick sort* dan *Merge sort*.

Source Code(*Quick sort* non-rekursif):

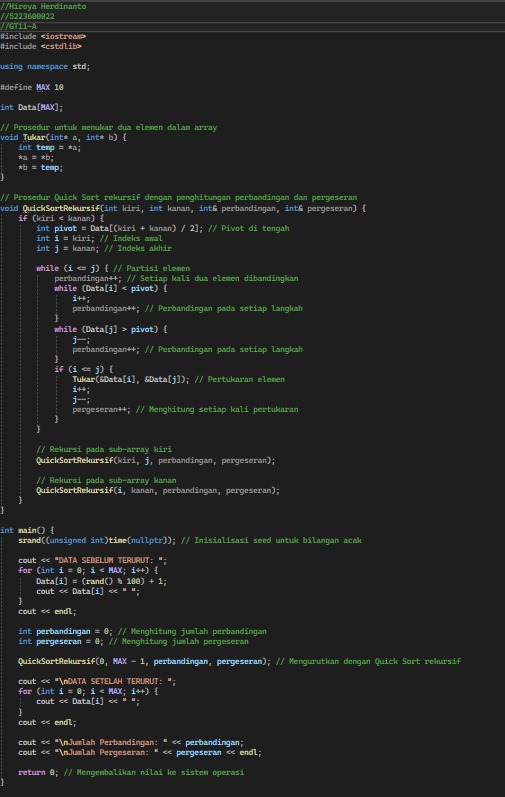




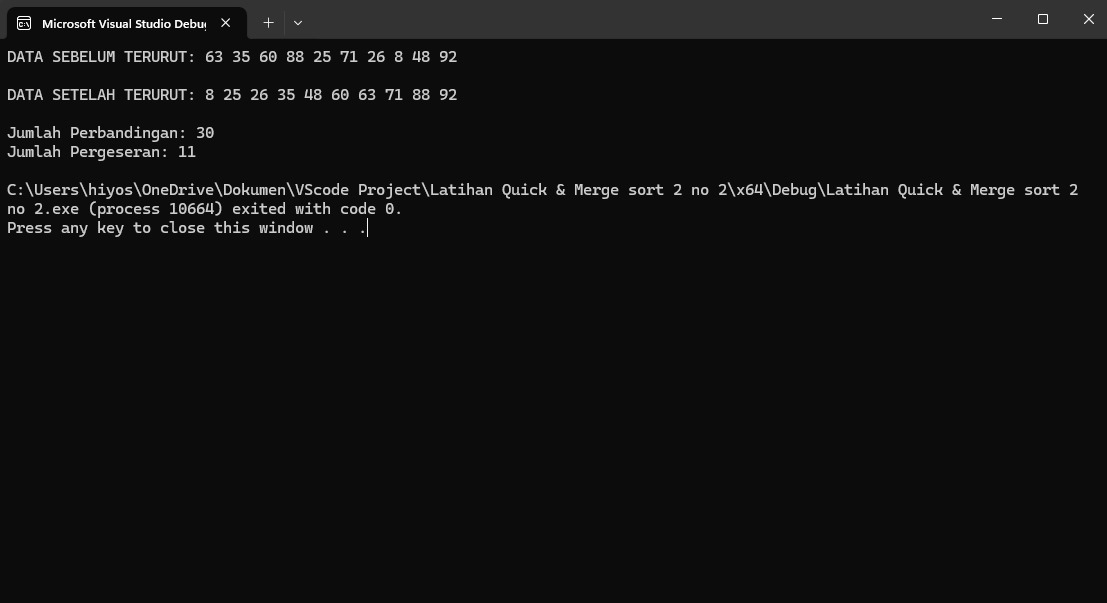
Output:



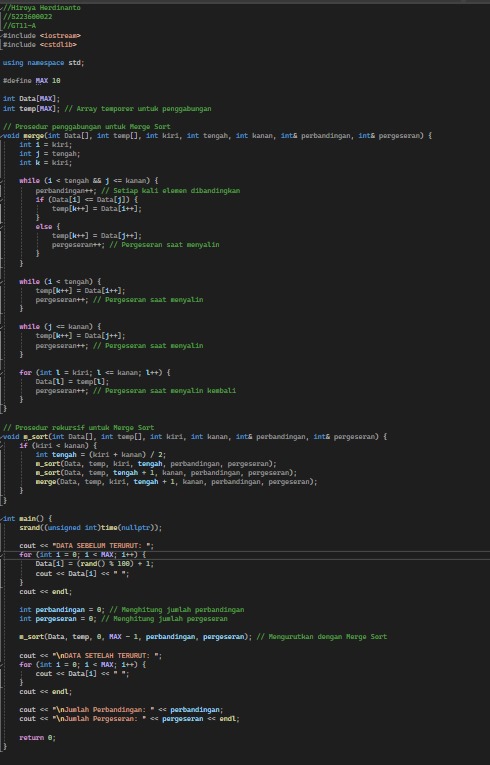
Source Code(Quick sort rekursif):

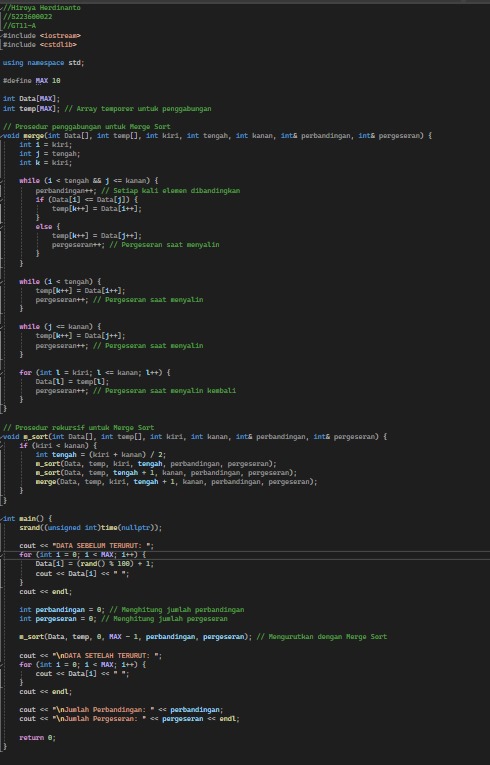


Output:

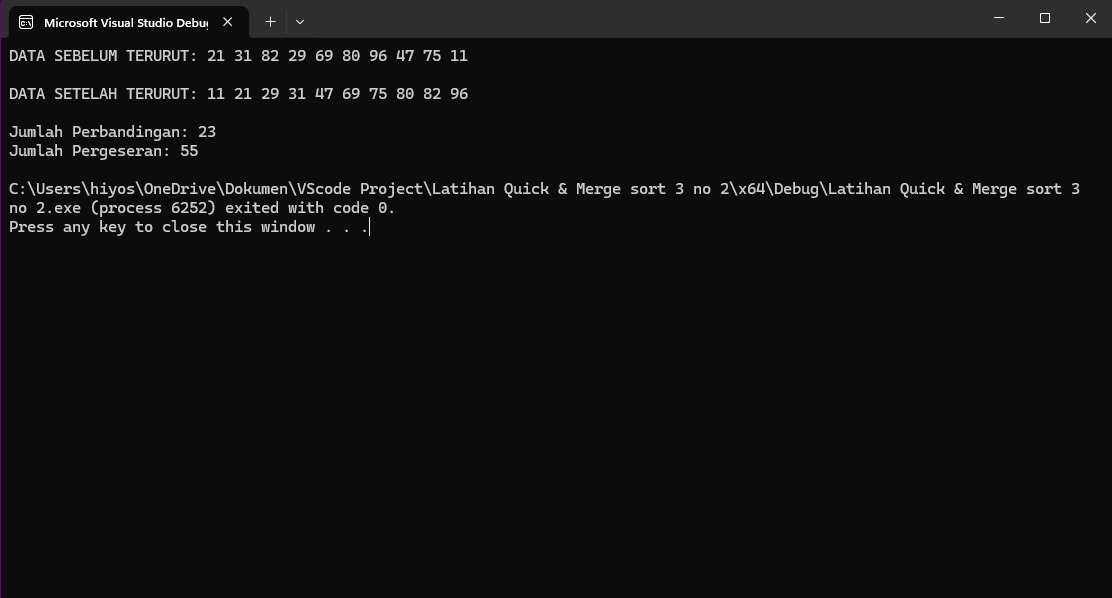


Source Code(Merge sort):





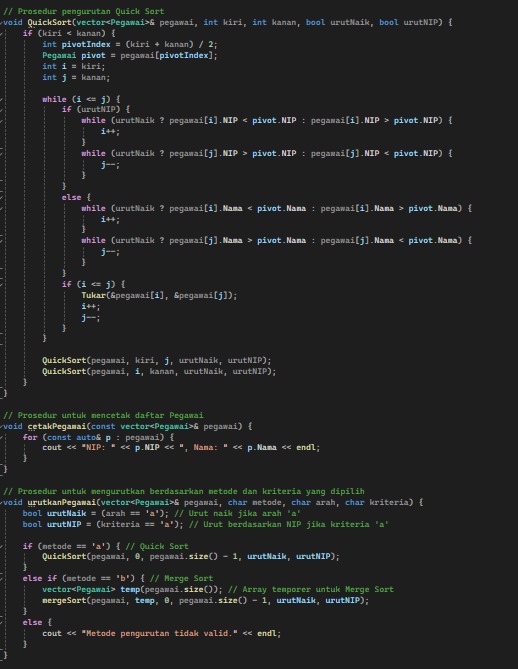
Output:

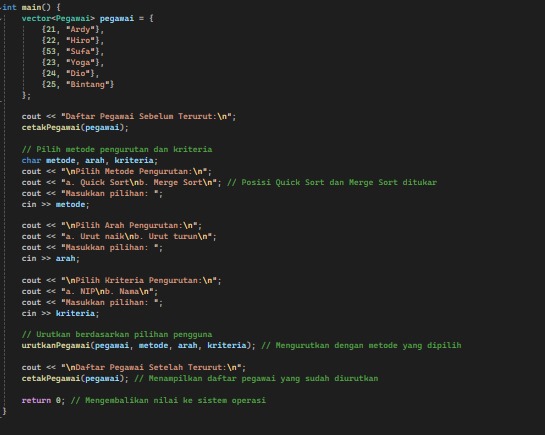


1. Implementasikan pengurutan data pegawai pada tugas pendahuluan dengan ketentuan :

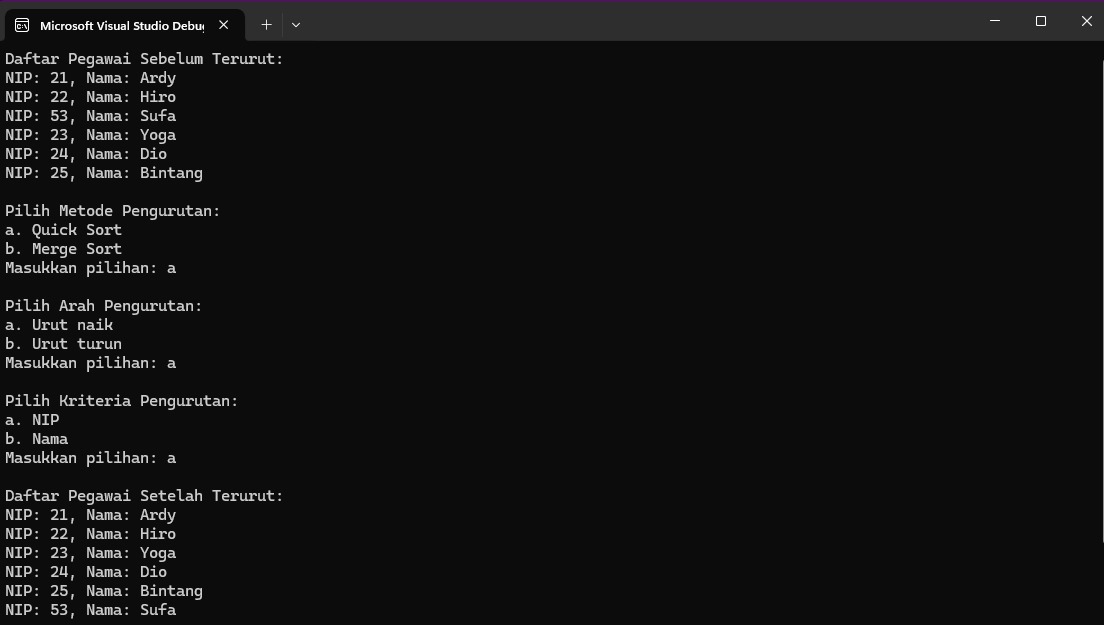
a)Metode pengurutan dapat dipilih.

Potongan Source Code:



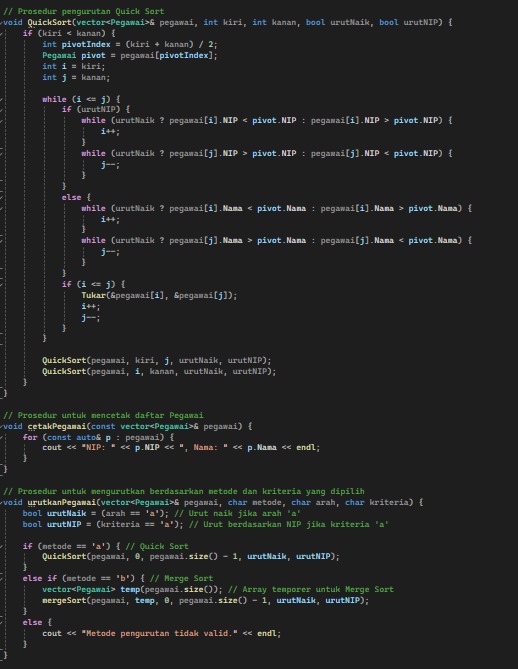


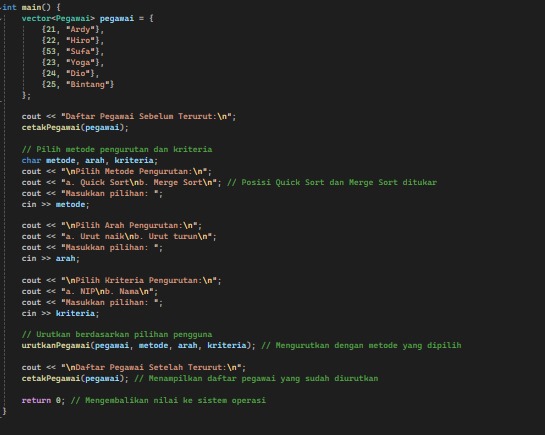
Potongan output:



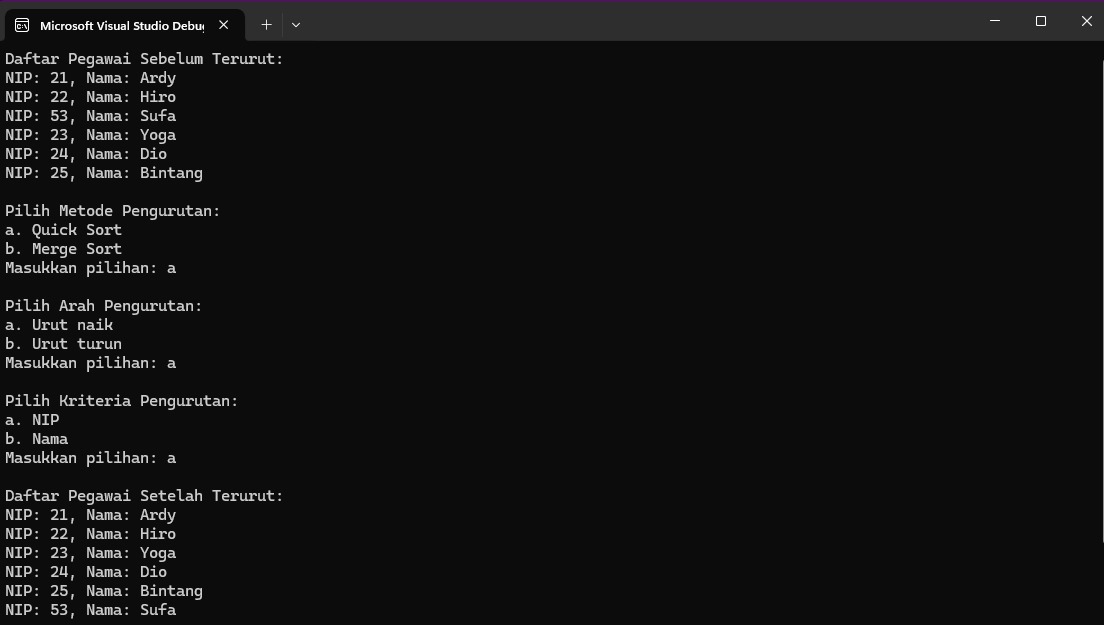
b)Pengurutan dapat dipilih secara urut naik atau turun.

Potongan Source Code:



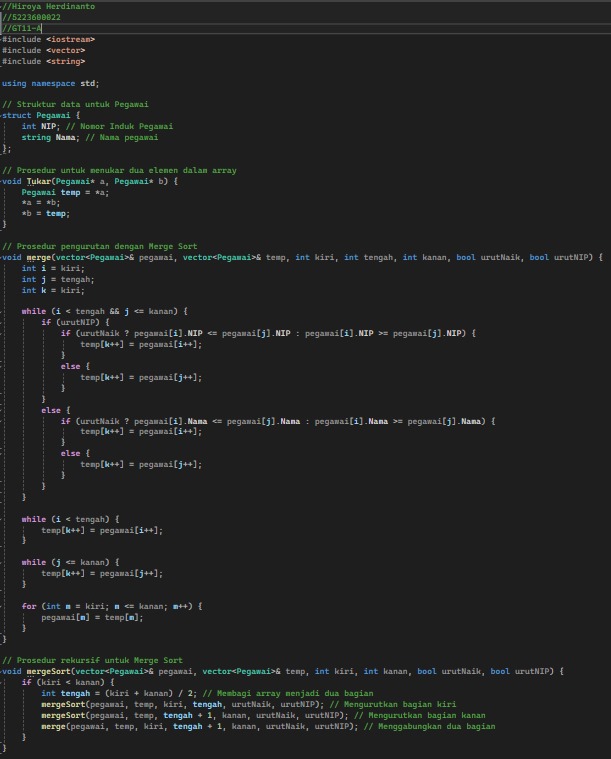


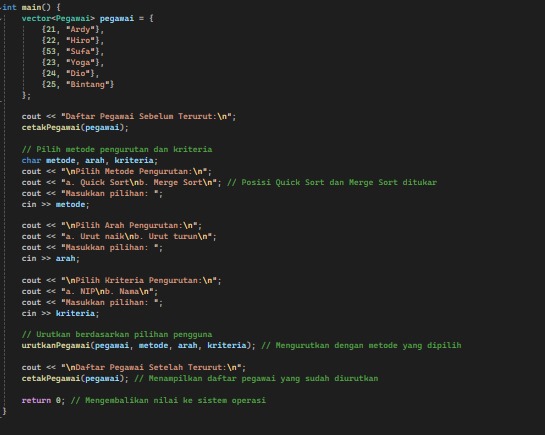
Potongan Output:



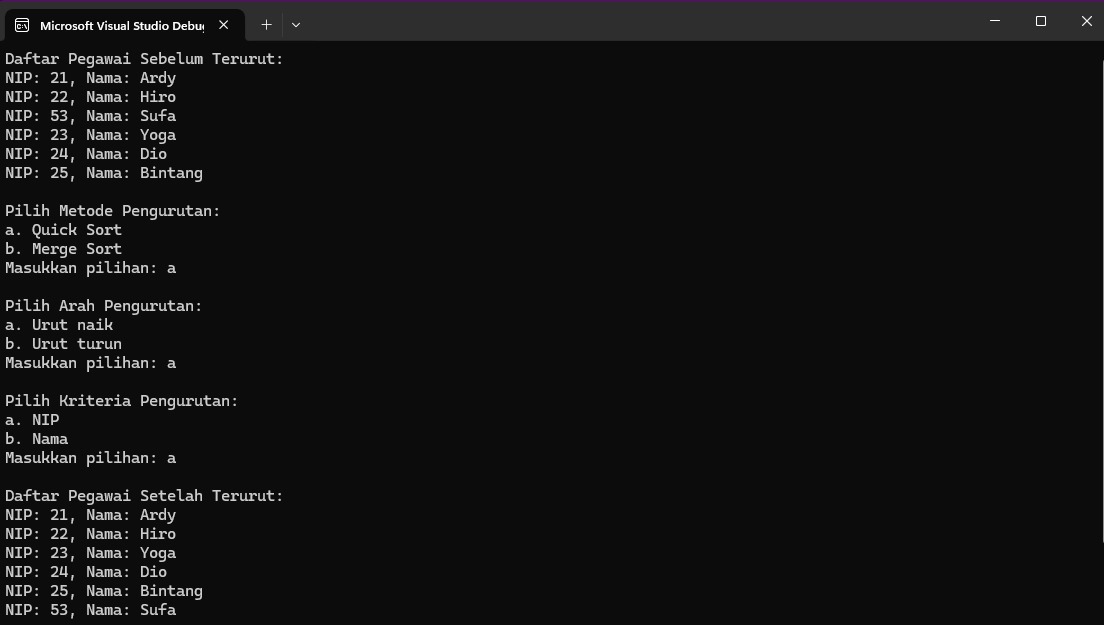
c)Pengurutan dapat dipilih berdasarkan NIP dan NAMA.

Potongan Source Code:



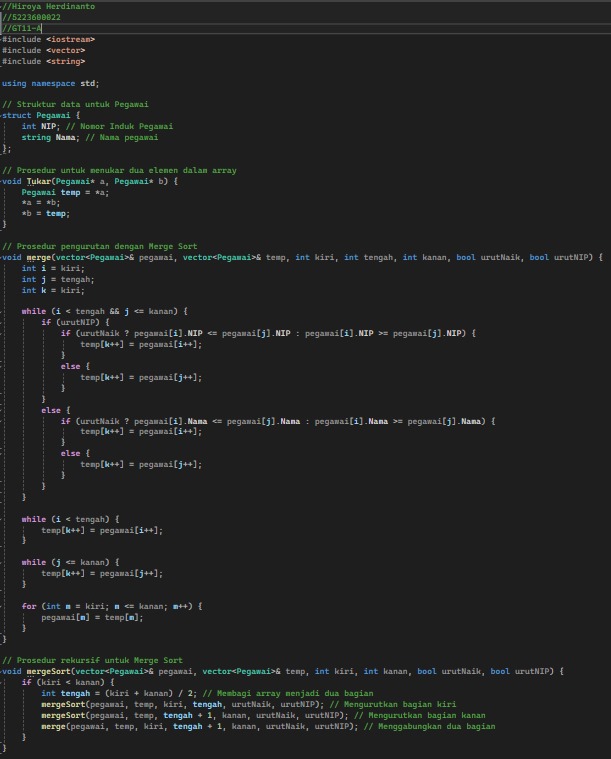


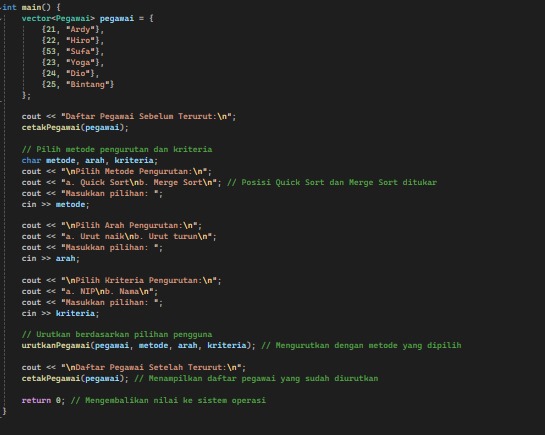
Potongan Output:



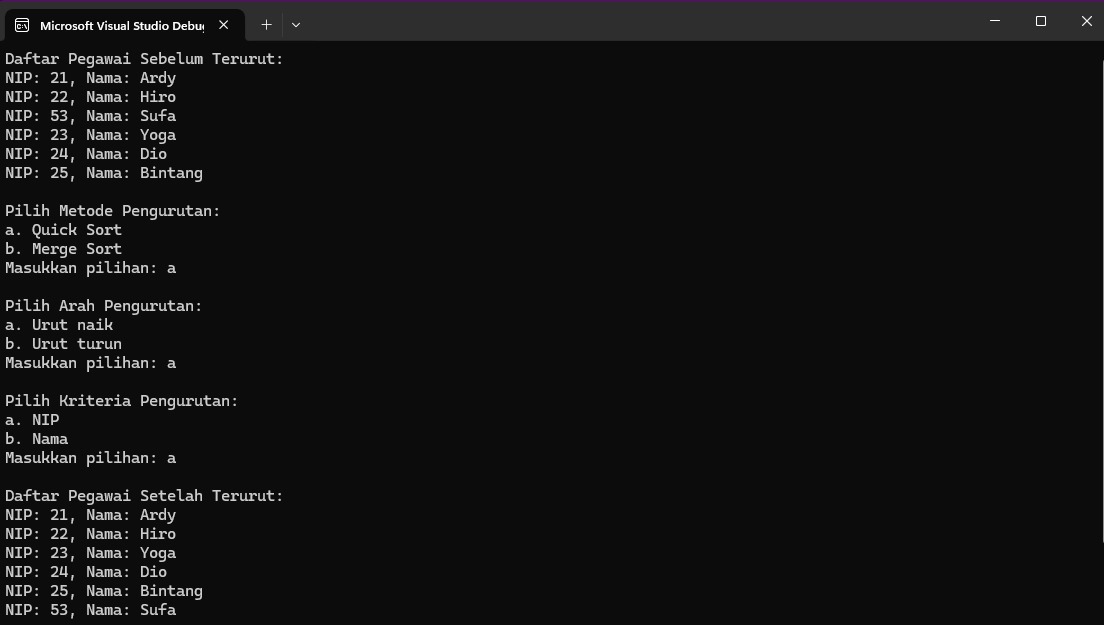
d)Gunakan struktur Array:

Potongan Source Code:

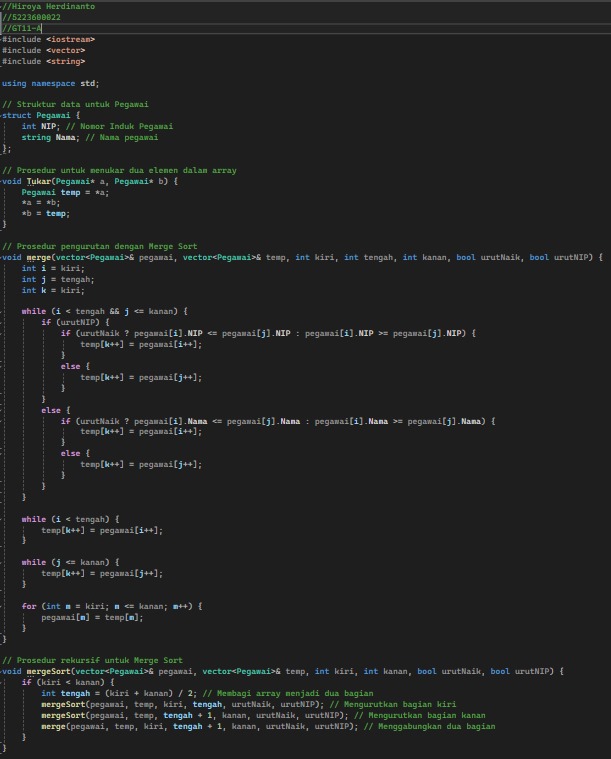


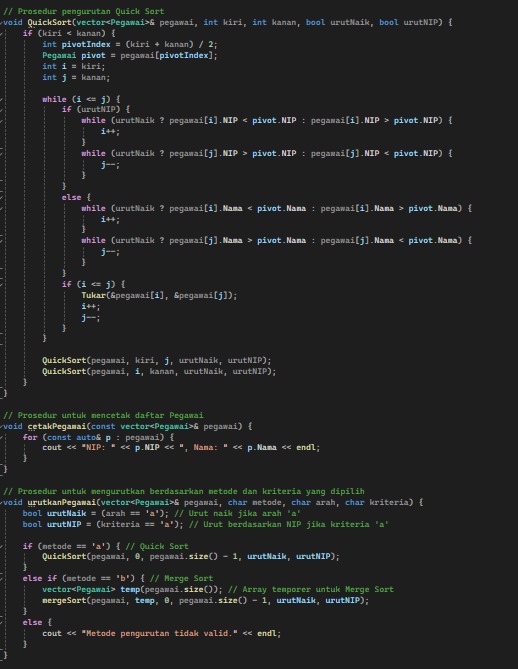


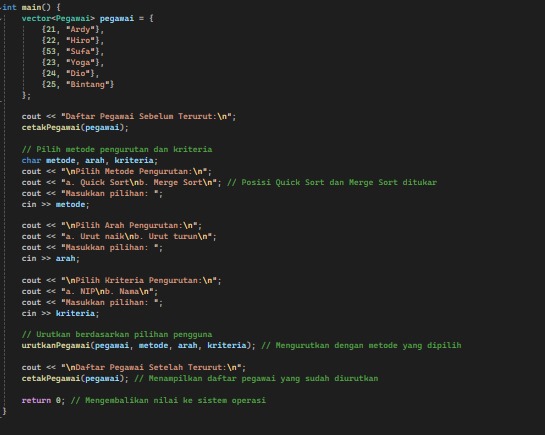
Potongan Output:



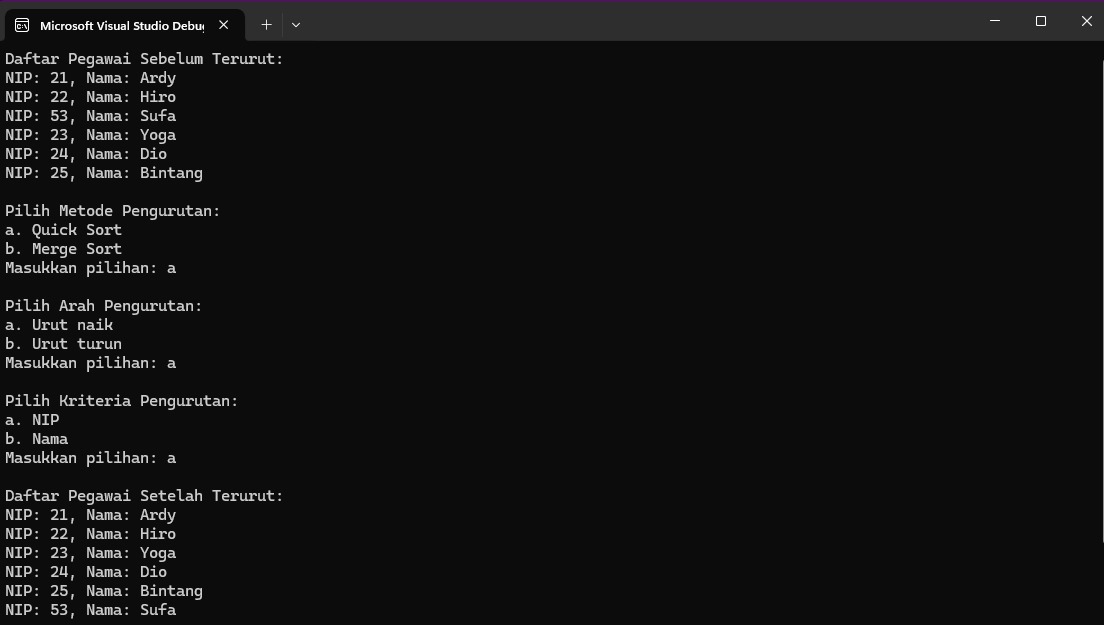
Source Code full:







Output:



1. Kesimpulan

🡪Quick sort dan merge sort adalah dua algoritma sorting yang efisien dan sering digunakan. Quick sort memiliki kompleksitas waktu rata-rata dengan overhead rendah, sementara merge sort memiliki kompleksitas waktu yang konsisten namun memerlukan lebih banyak ruang memori.