Tên: Lê Văn Tâm

MSV: N22DCDK082

Lớp: D22CQDK01-N

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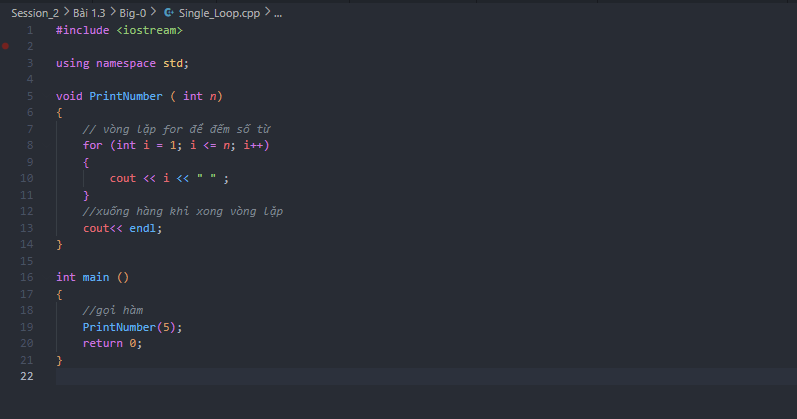
# Session 2

## Bài 1.3: Big-O, Big-, Big-

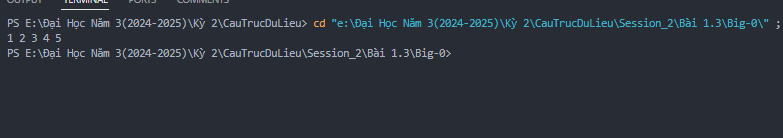
### I. Big-O

#### a. Single Loop (Vòng Lặp Đơn)

Code: (C++)

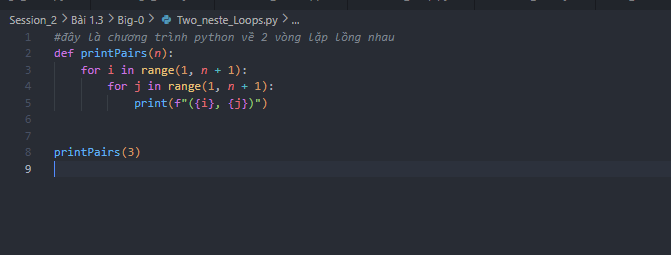


Kết Quả:

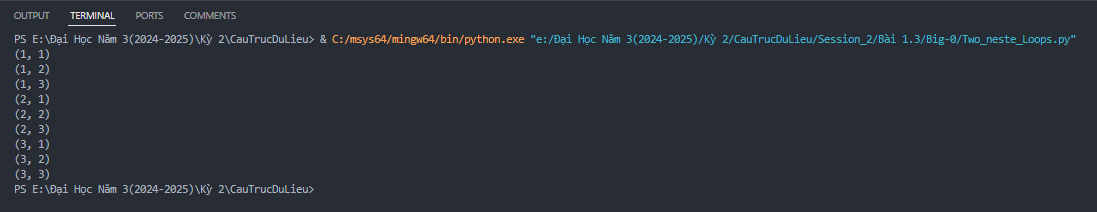


#### b. Two Neste Loop (2 Vòng Lặp Lồng Nhau)

Code: (Python)

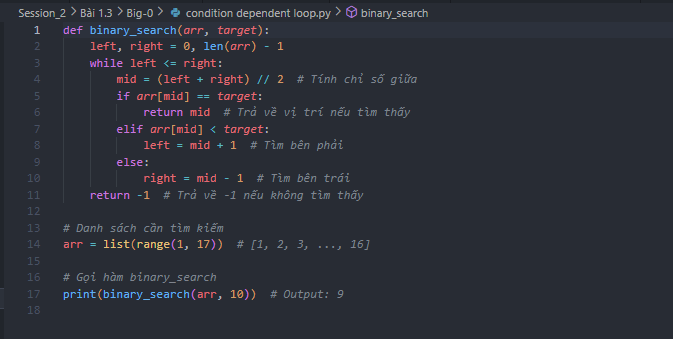


Kết Quả:

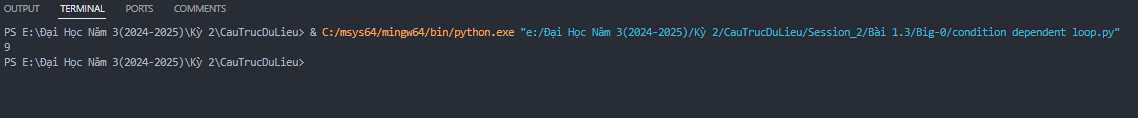


#### c.Condition Dependent Loop (Vòng Lặp Phụ Thuộc Điều Kiện)

Code: (Python)



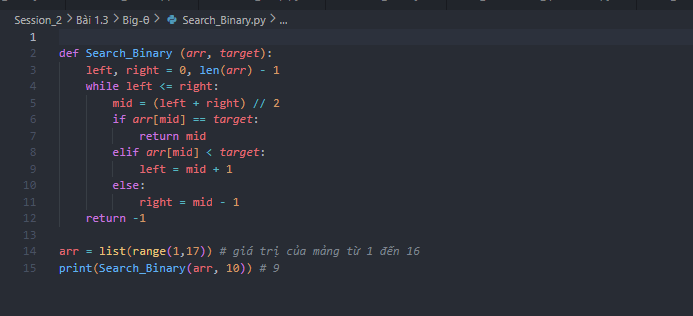
Kết Quả:



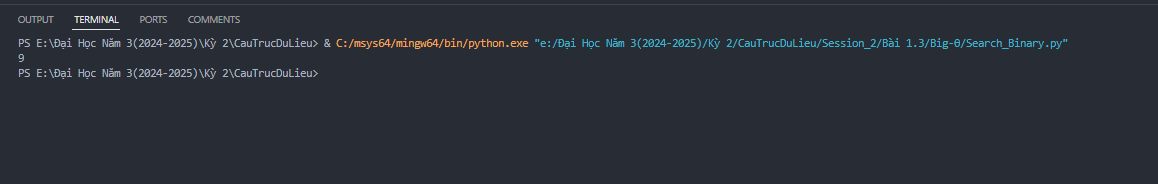
### II. Big-

#### a. Search Binary (Tìm Kiếm Nhị Phân)

Code: (Python)

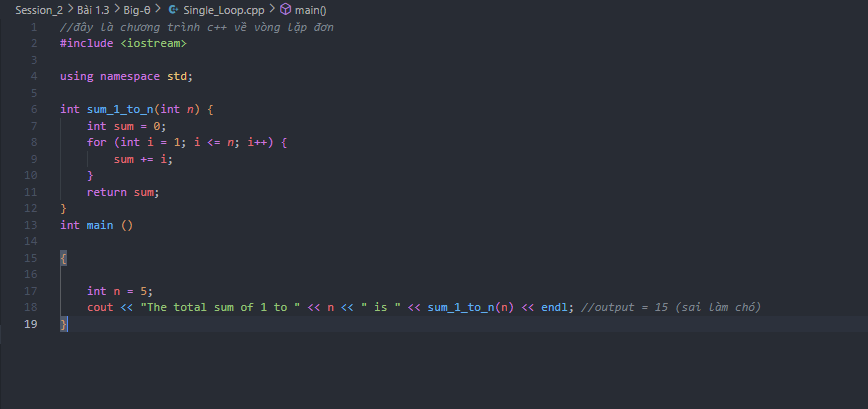


Kết Quả:

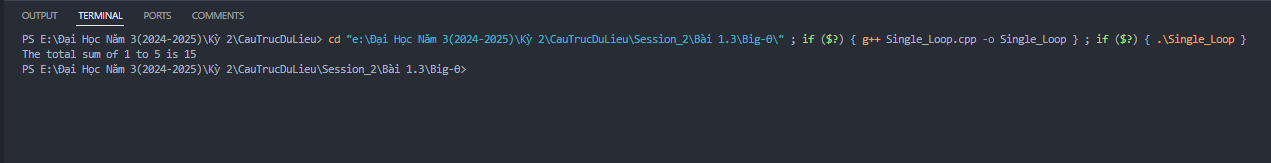


#### b. Single Loop (Vòng Lặp Đơn)

Code: (C++)



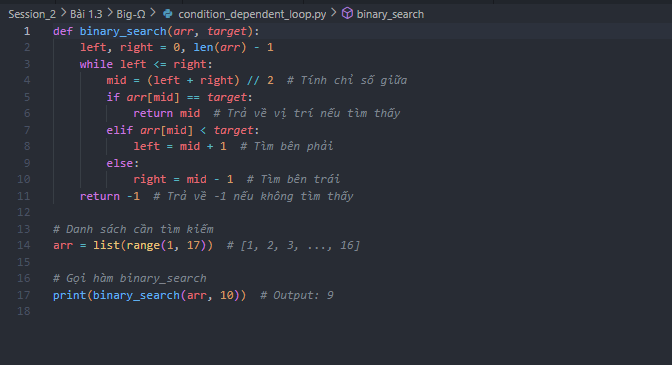
Kết Quả:

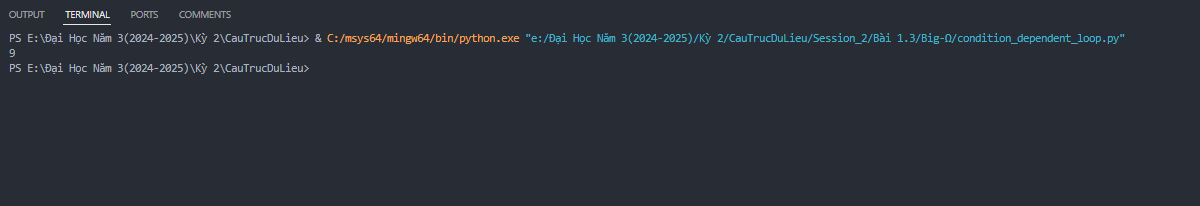


### III. Big-

#### a. Condition Dependent Loop (Vòng Lặp Phụ Thuộc Điều Kiện)

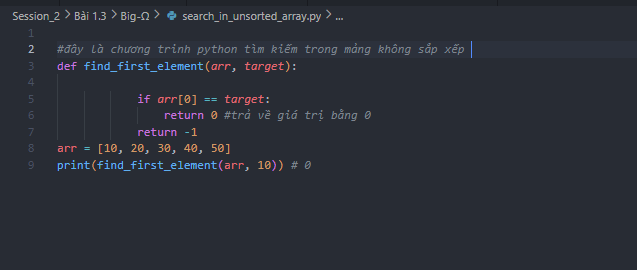
Code: (Python)



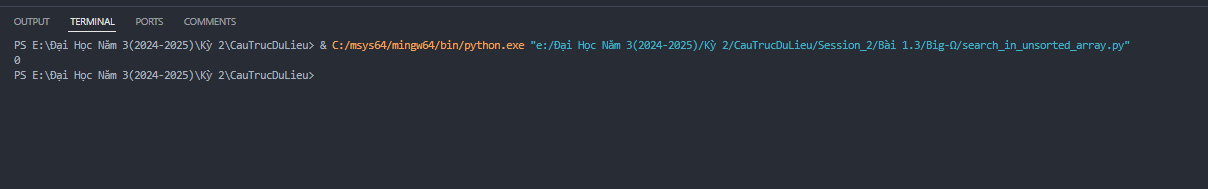
Kết Quả:  


#### b. Search In Unshorted Array (Tìm Kiếm Trong Mảng Không Sắp Xếp)

Code: (Python)



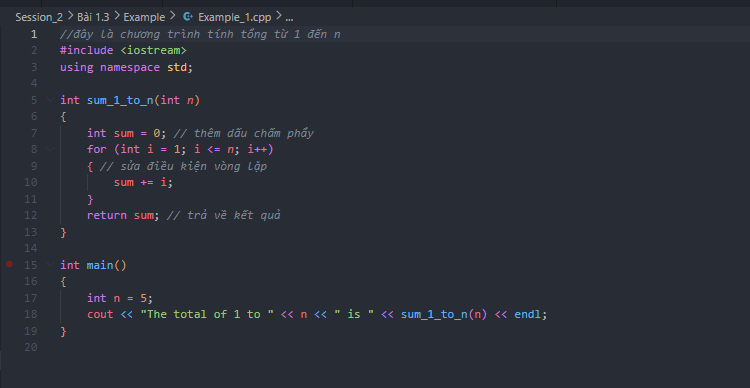
Kết Quả:



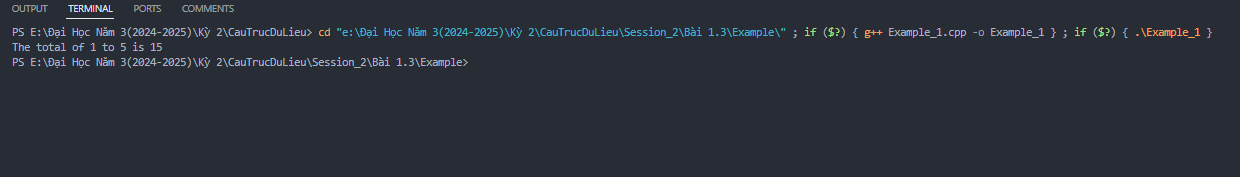
### Example 1 to 5.

#### Example 1: Sum 1 to n

Code: (C++)

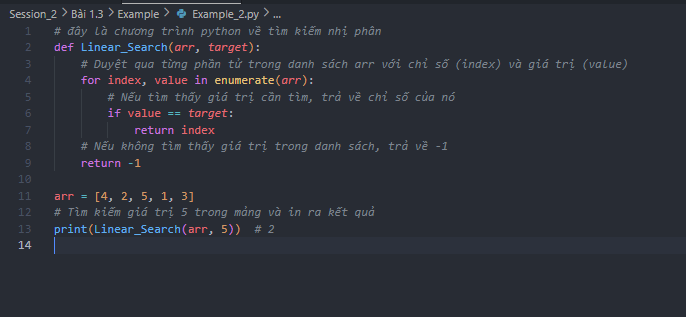


Kết Quả:

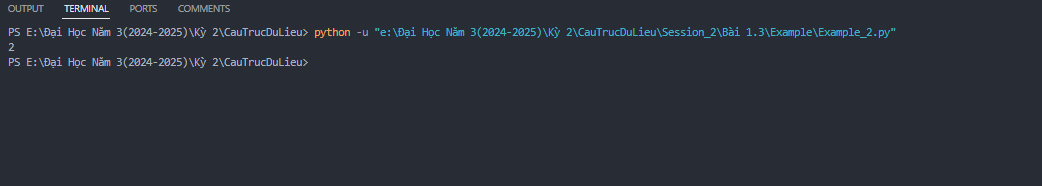


#### Example 2: Search Binary

Code: (Python)

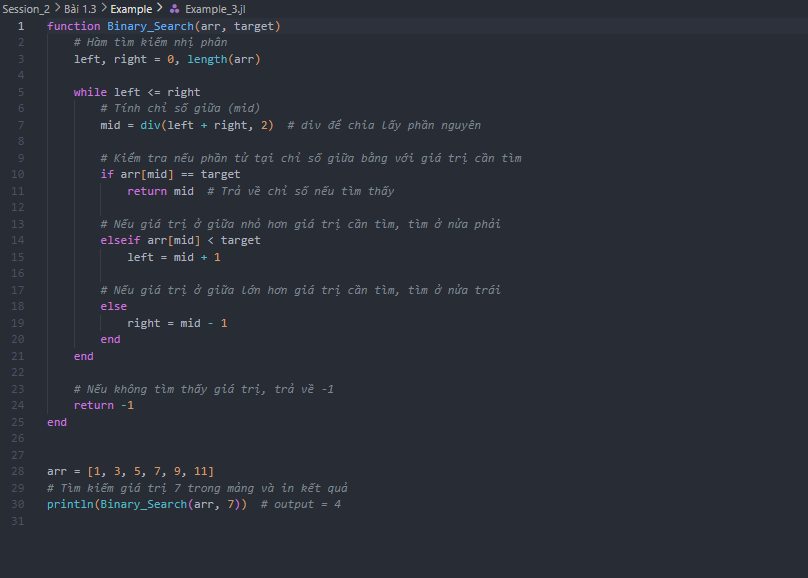


Kết Quả:

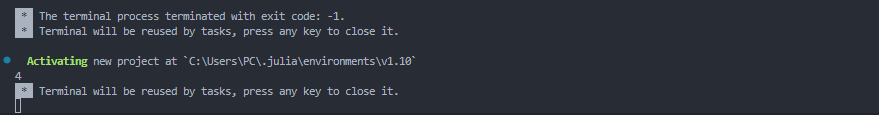


#### Example 3: Binary Search In Shorted Array

Code: (Julia)

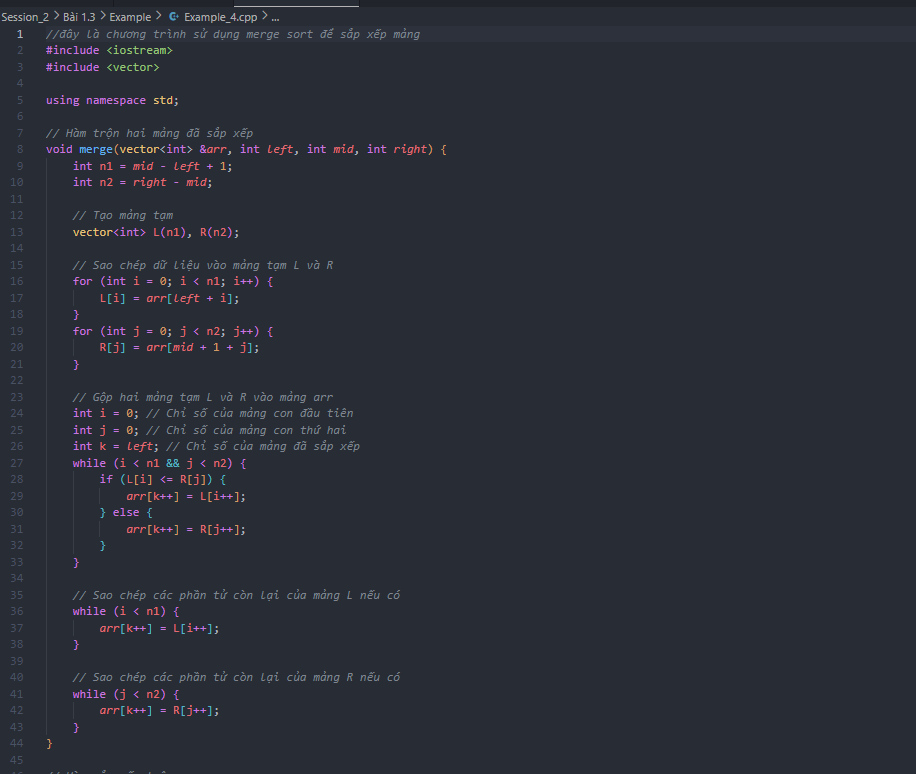


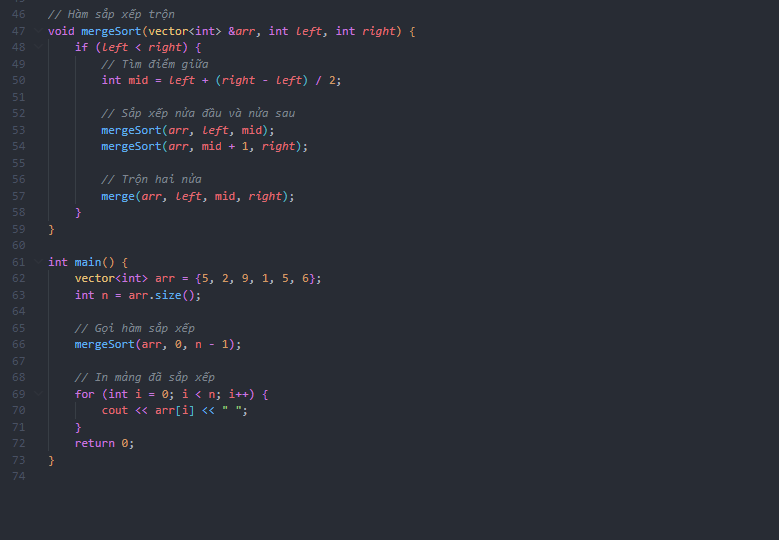
Kết Quả:



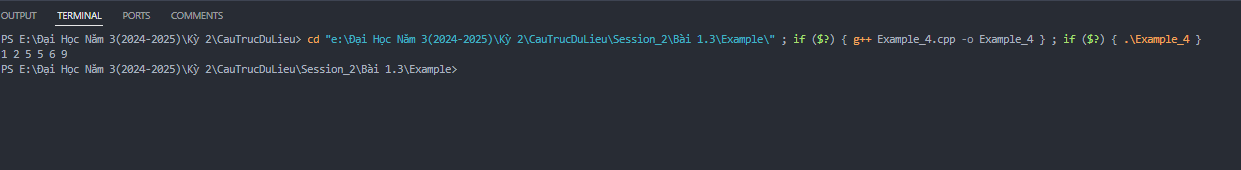
#### Example 4: Shorted Merge Short

Code: (C++)



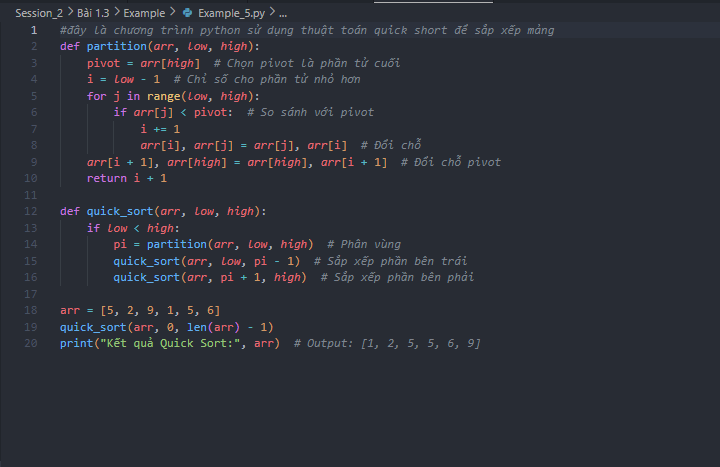


Kết Quả:

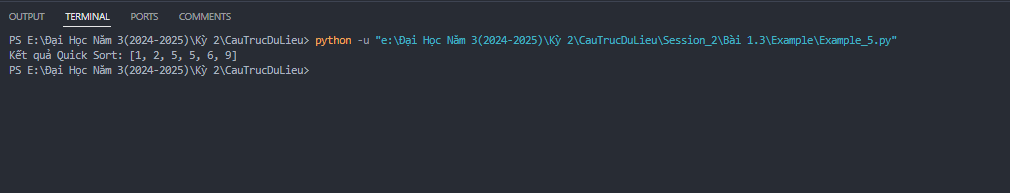


#### Example 5: Shorted Quick Short

Code: (Python)



Kết Quả:

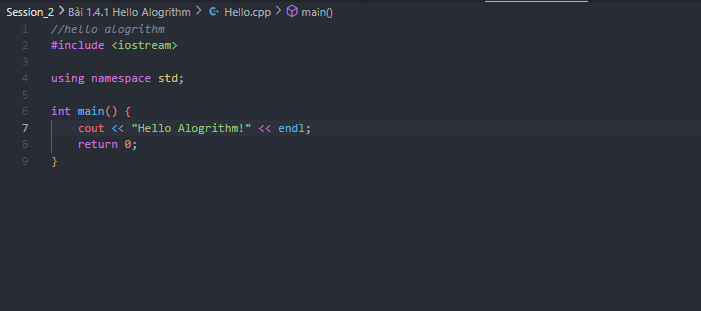


## Bài 1.4: Hello alogrithm

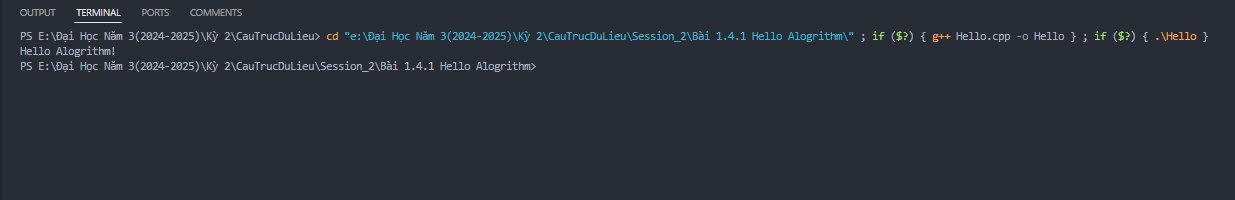
### I.Hello Alogrthim

#### a. Hello Alogrithm (C++)

Code:

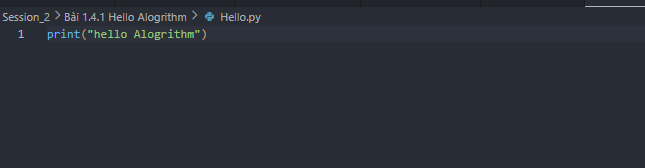


Kết Quả:

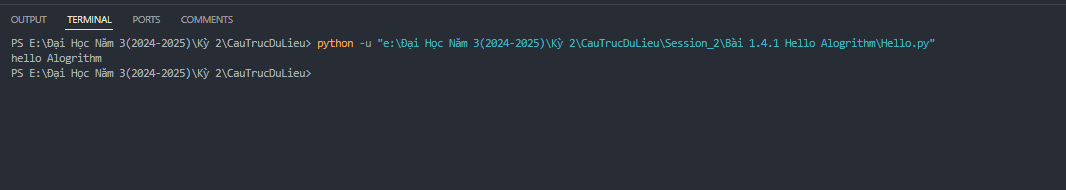


#### b. Hello Alogrithm (Python)

Code:

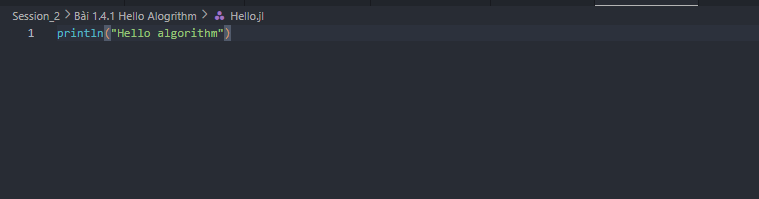


Kết Quả:

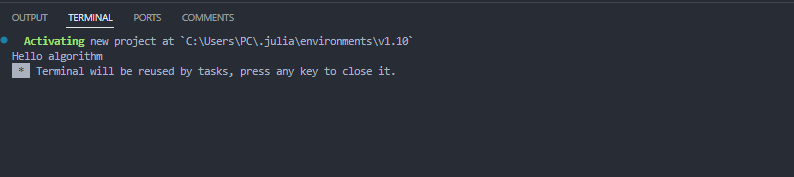


#### c. Hello Alogrithm (Julia)

Code:



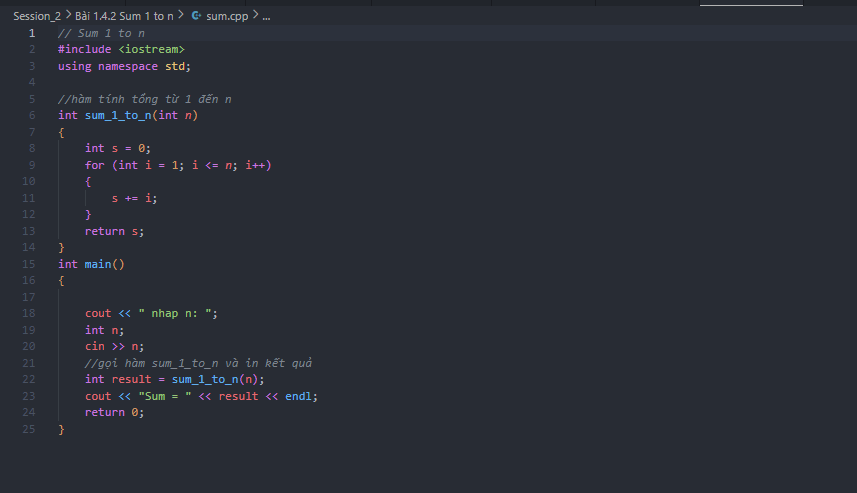
Kết Quả:



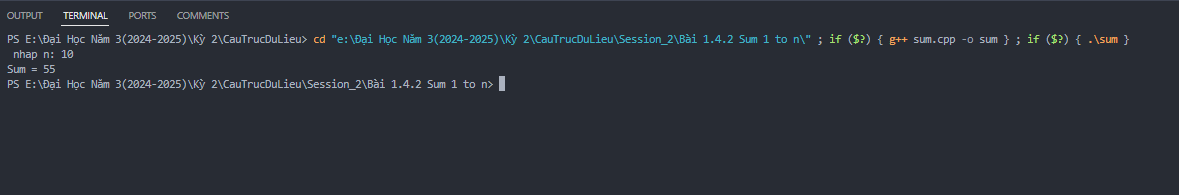
### II.Sum 1 to n

#### a. Sum 1 to n (C++)

Code:

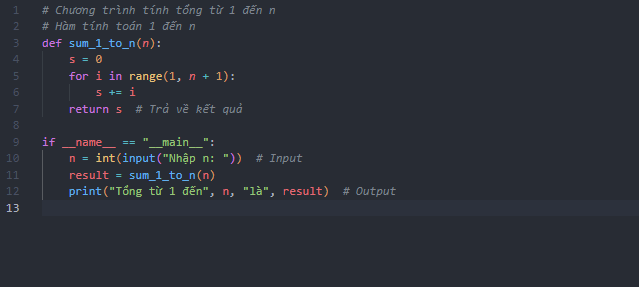


Kết Quả:

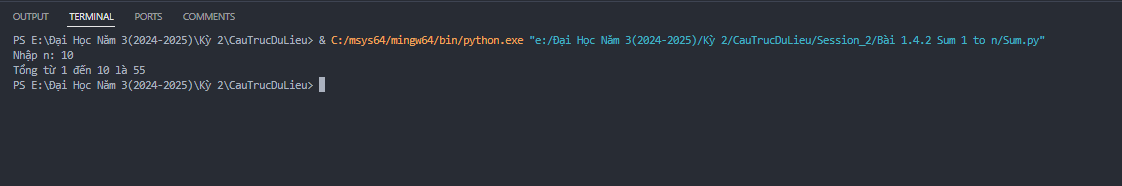


#### b. Sum 1 to n (Python)

Code:

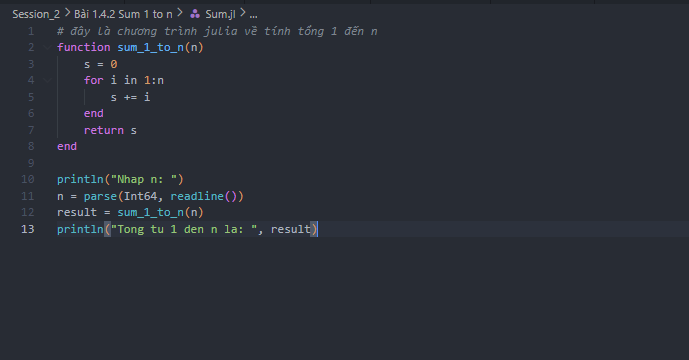


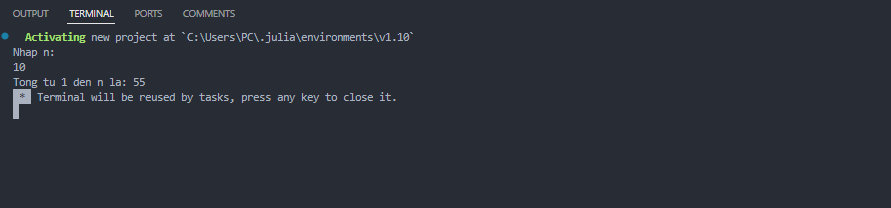
Kết Quả:



#### c. Sum 1 to n (Julia)

Code:

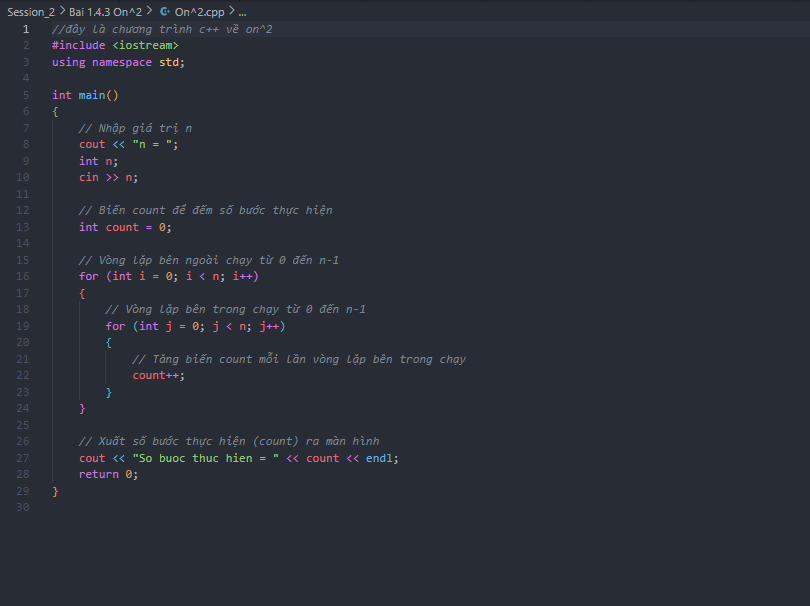


Kết Quả:  


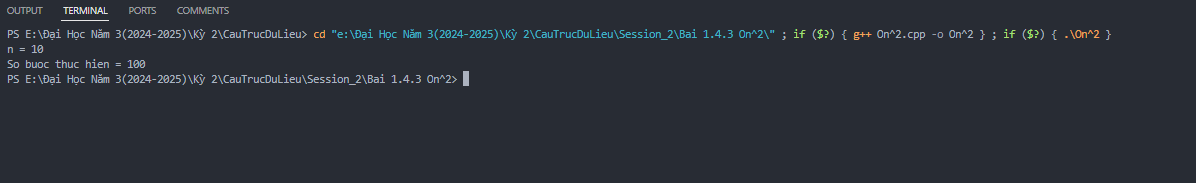
### III. Example O(n2)

#### a.O(n2) (C++)

Code:



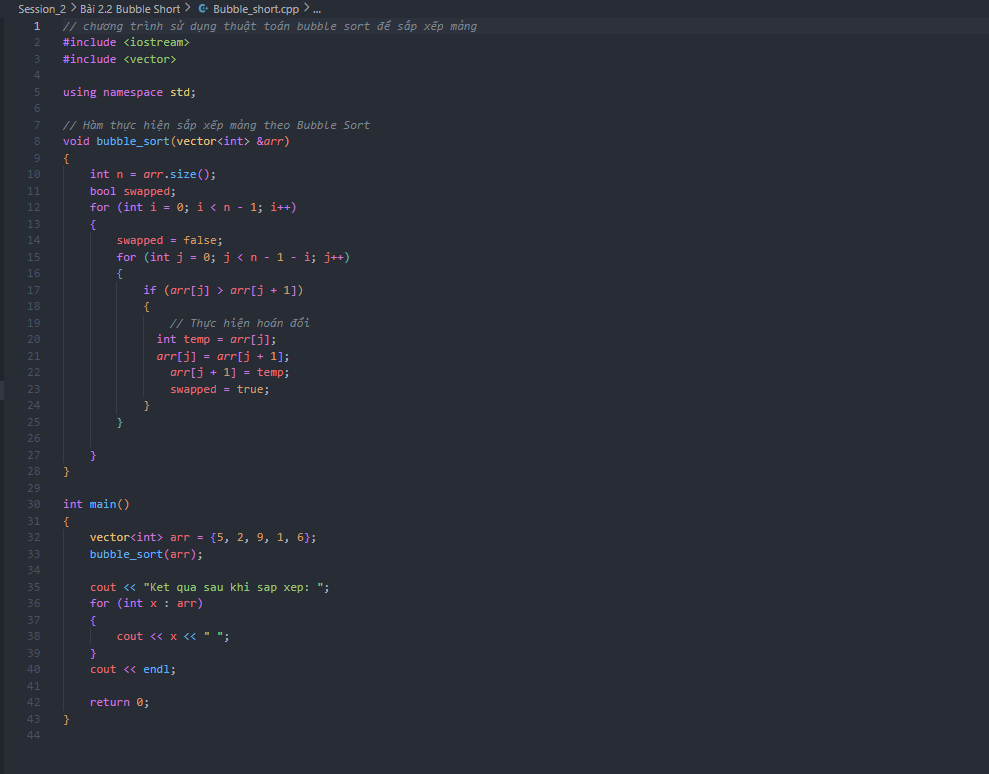
Kết Quả:

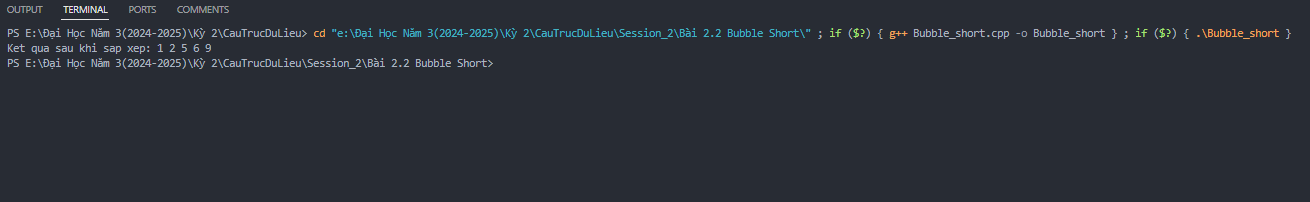


## Bài 2.2: Bubble Short

#### a. Bubble Short (C++)

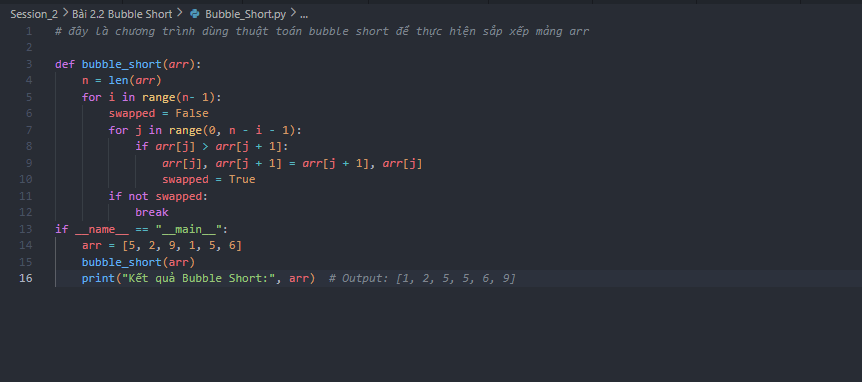
Code:



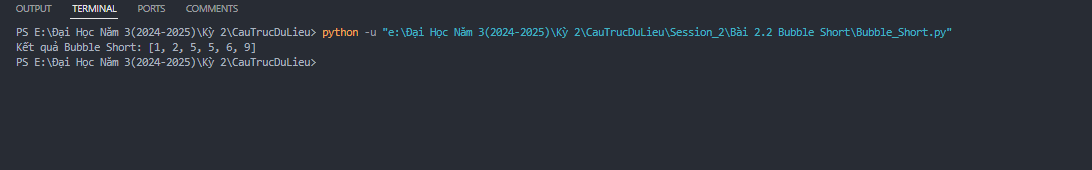
Kết Quả:  


#### b. Bubble Short (Python)

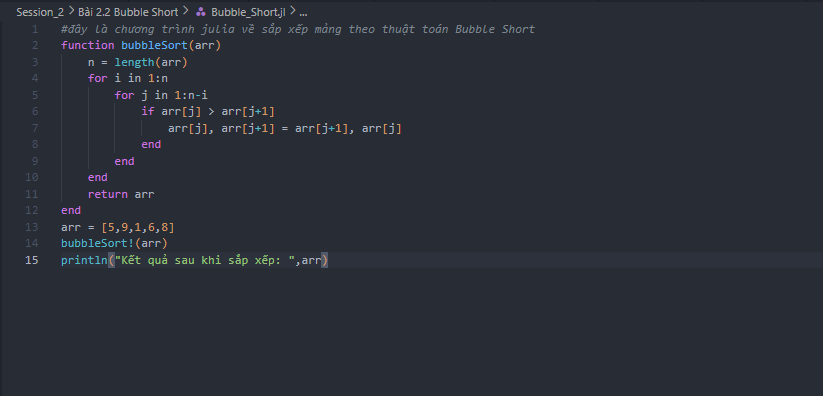
Code:



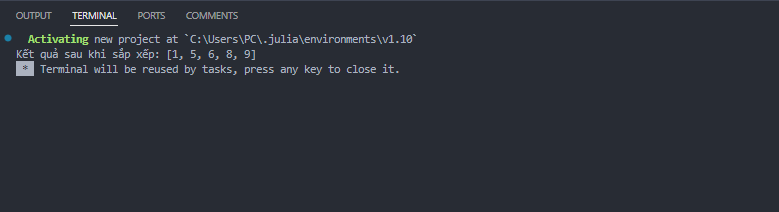
Kết Quả:



#### c. Bubble Short (Julia)

Code:  


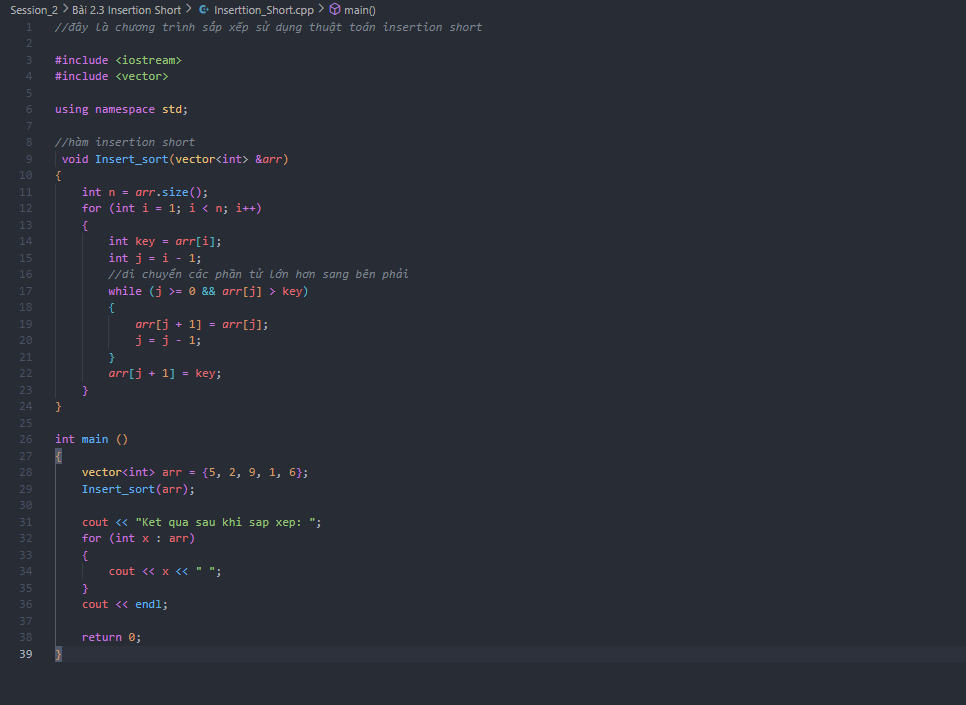
Kết Quả:



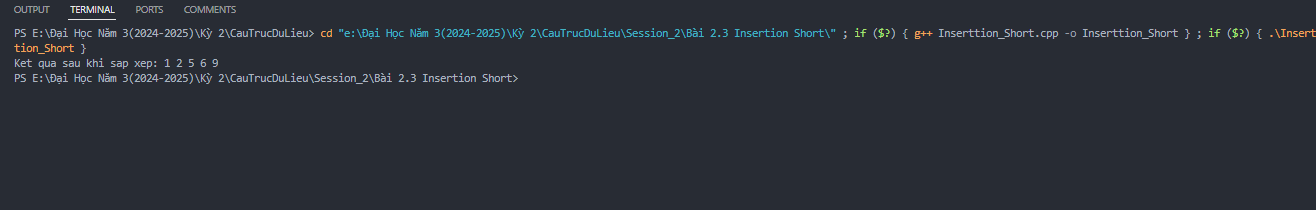
## Bài 2.3: Insertion Short

#### a. Insertion Short (C++)

Code:

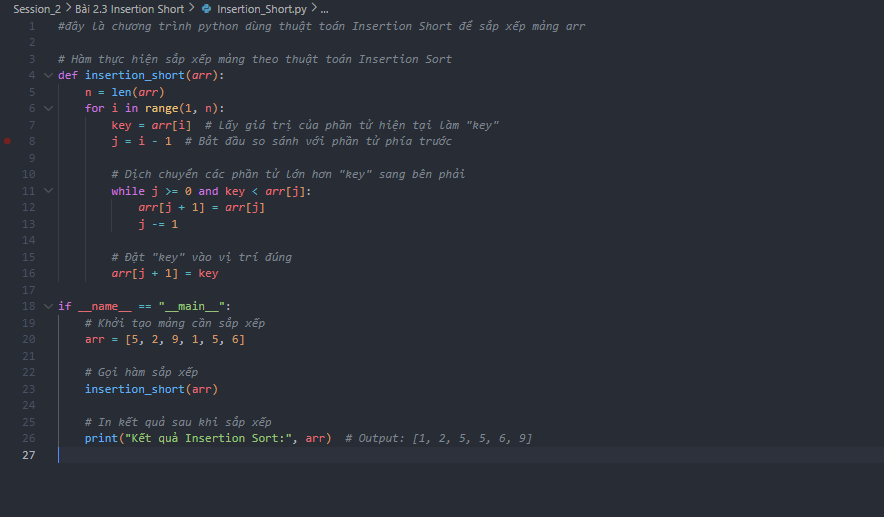


Kết Quả:

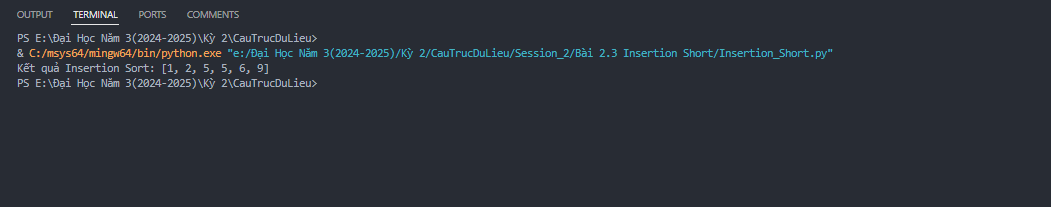


#### b. Insertion Short (Python)

Code:

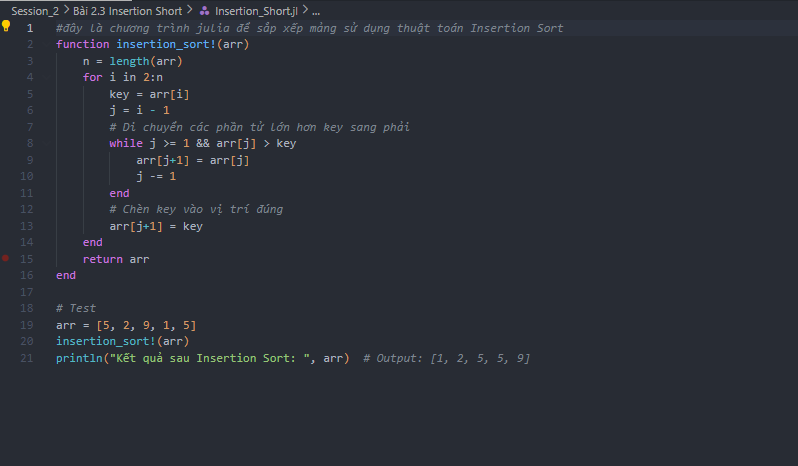


Kết Quả:

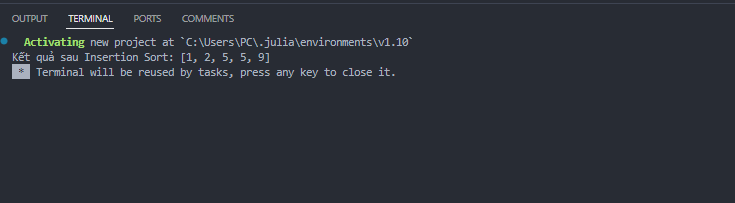


#### c. Insertion Short (Julia)

Code:



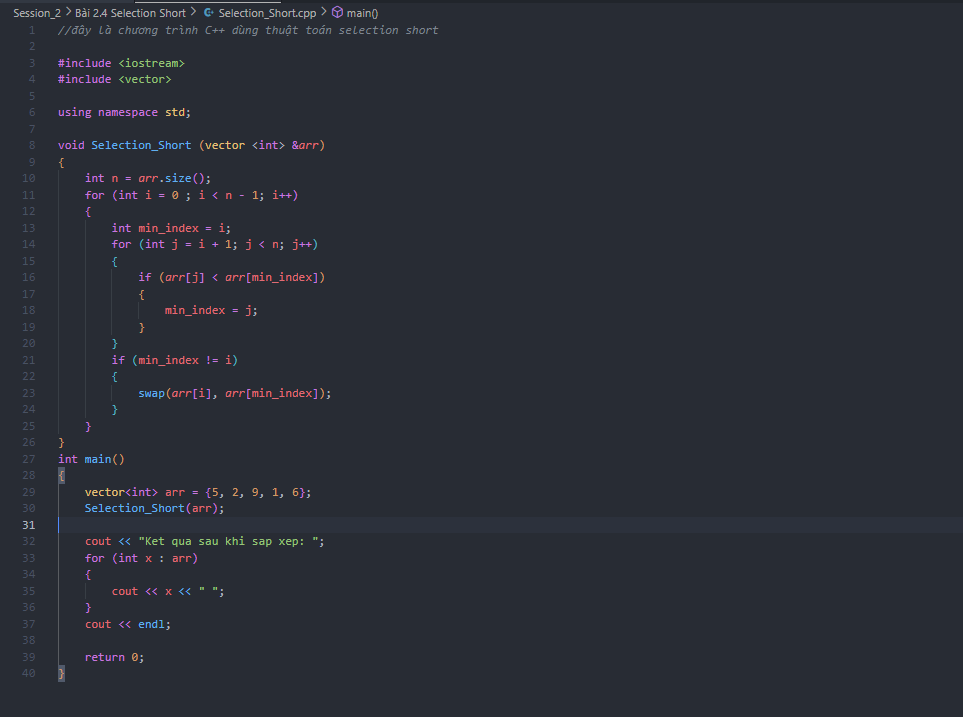
Kết Quả:



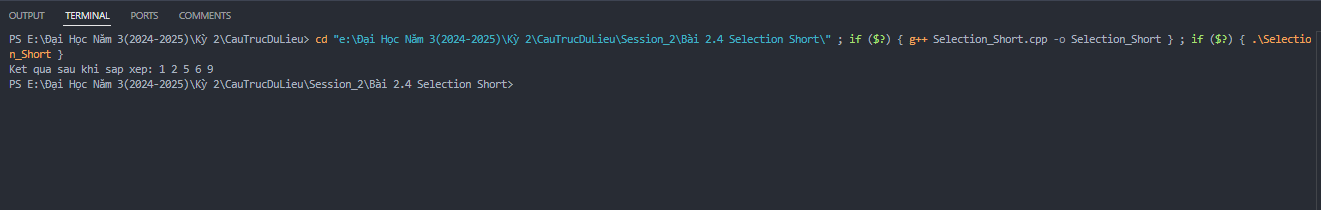
## Bài 2.4: Selection Short

#### a. Selection Short (C++)

Code:



Kết Quả:

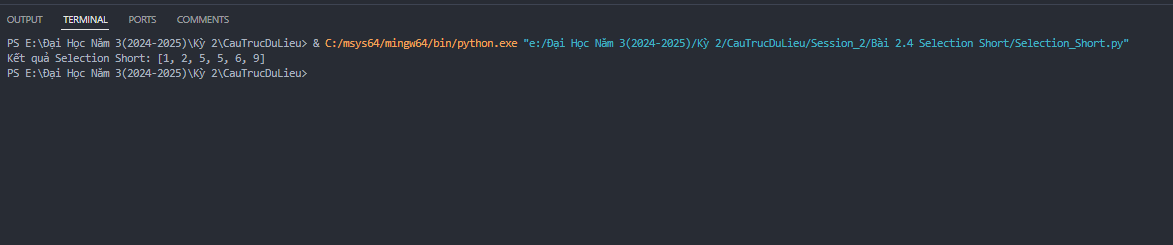


#### b. Selection Short (Python)

Code:

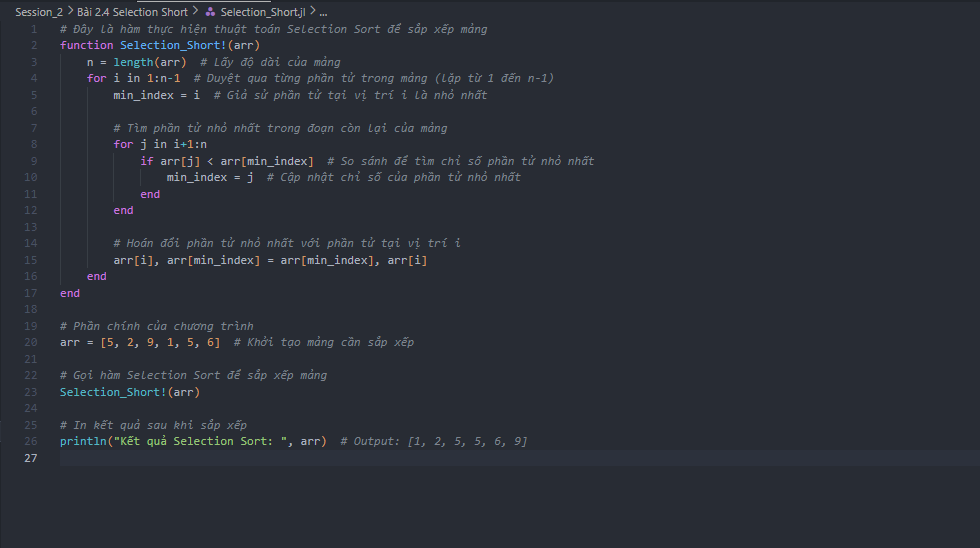


Kết Quả:

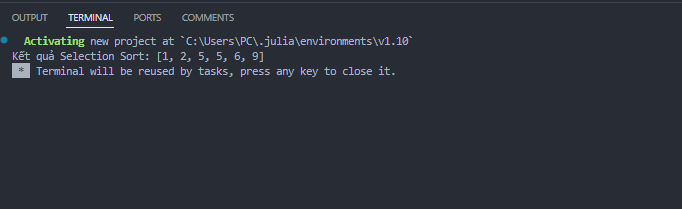


#### c. Selection Short (Julia)

Code:



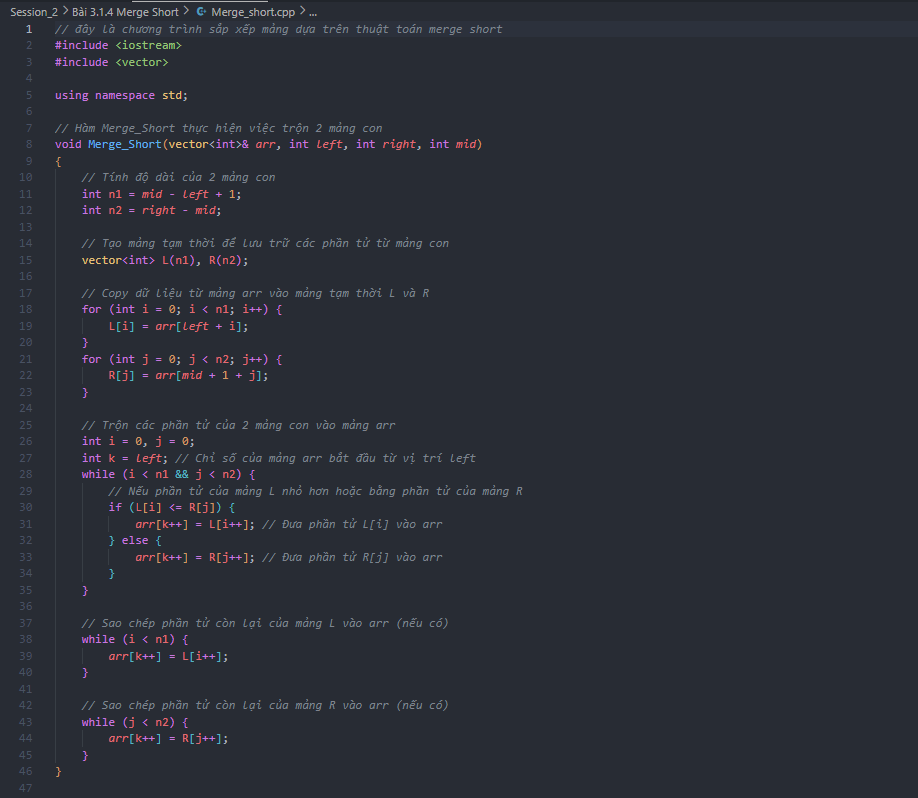
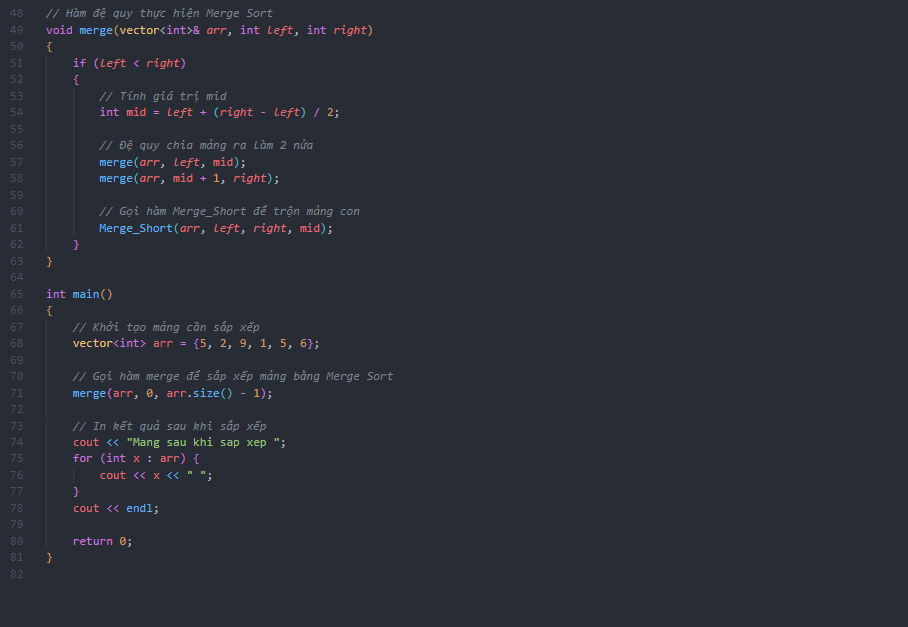
Kết Quả:

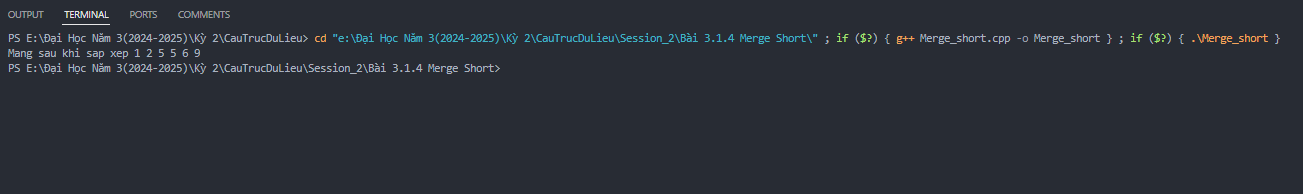


## Bài 3.1: Merge Short

#### a. Merge Short (C++)

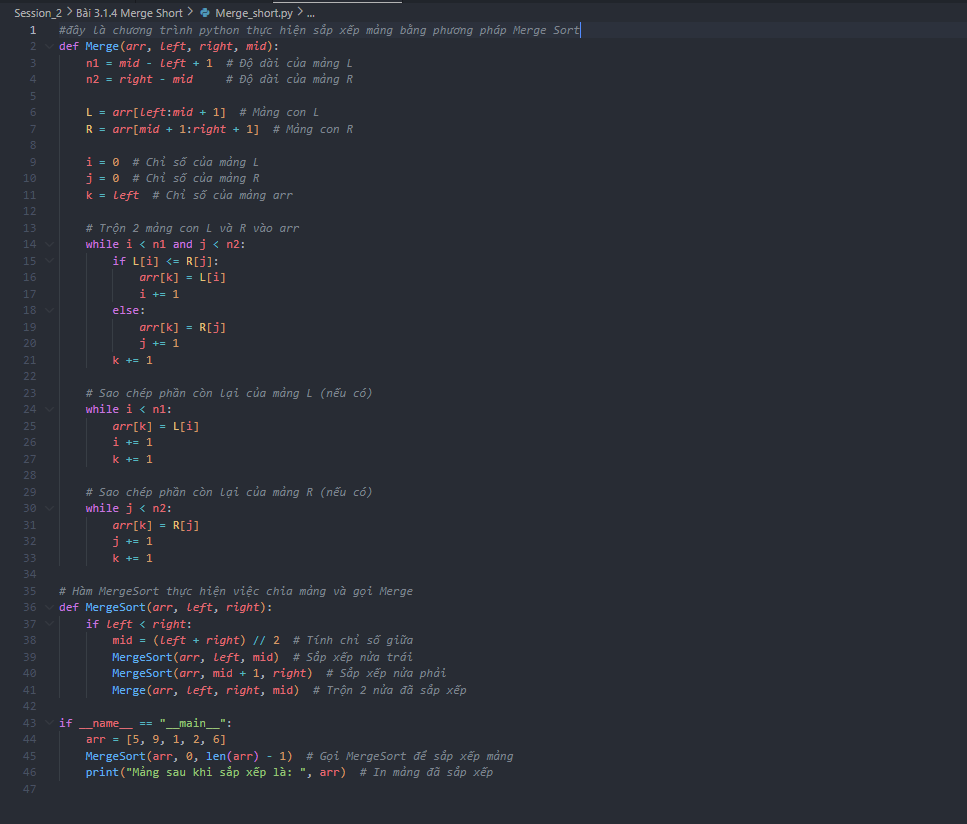
Code:

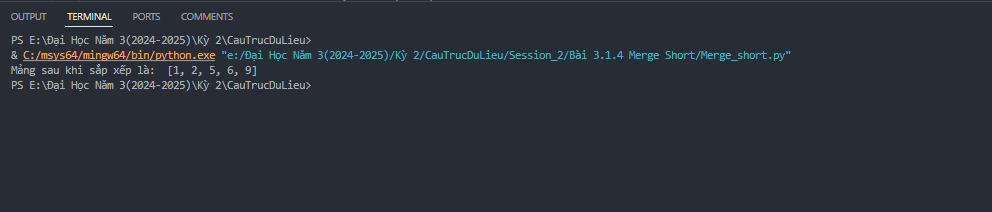
Kết Quả:  


#### b.Merge Short (Python)

Code:

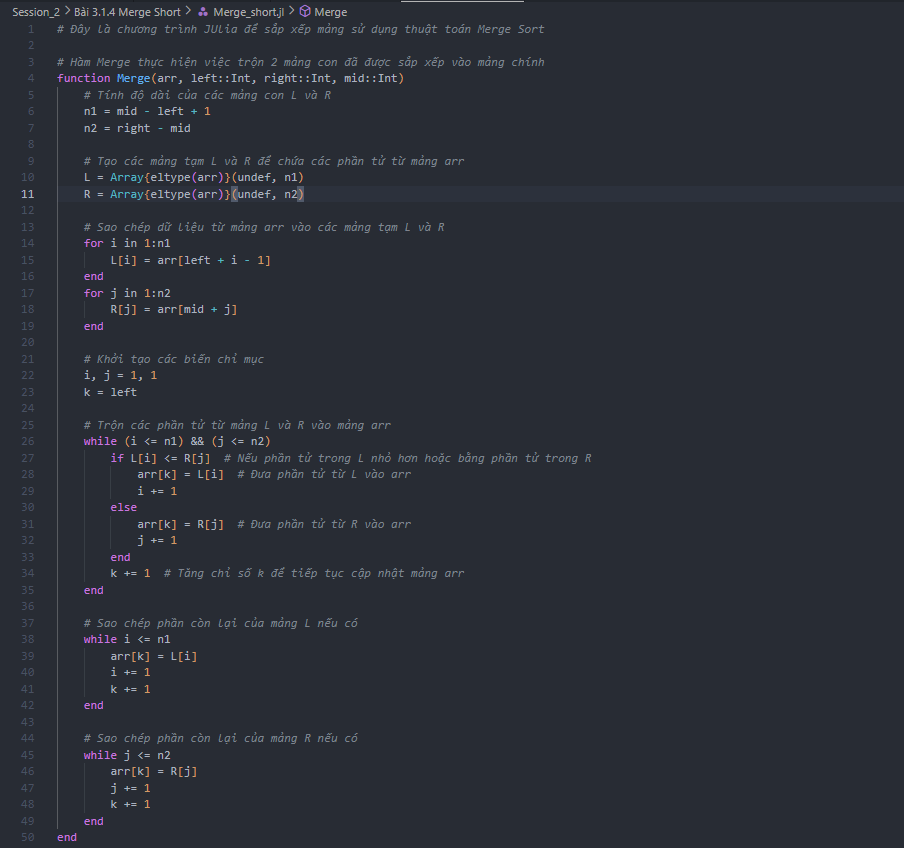


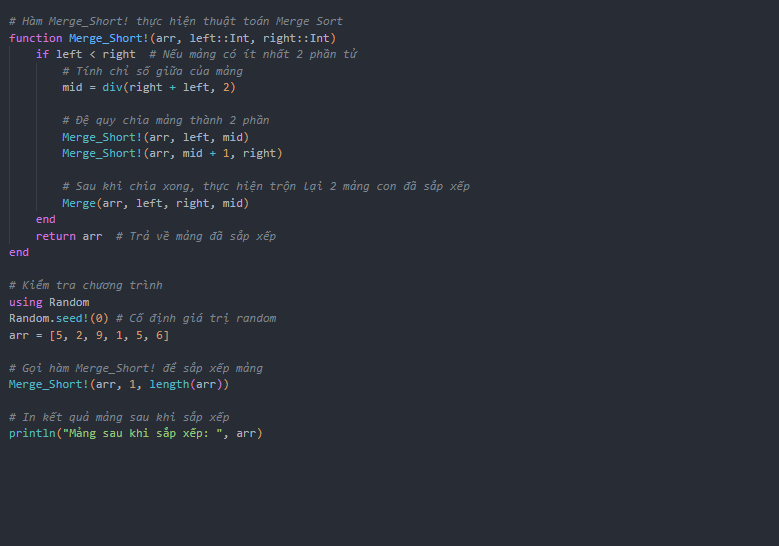
Kết Quả:



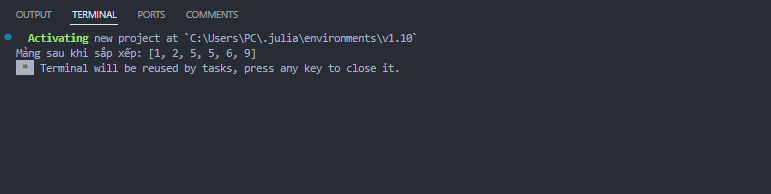
#### c. Merge Short (Julia)

Code:





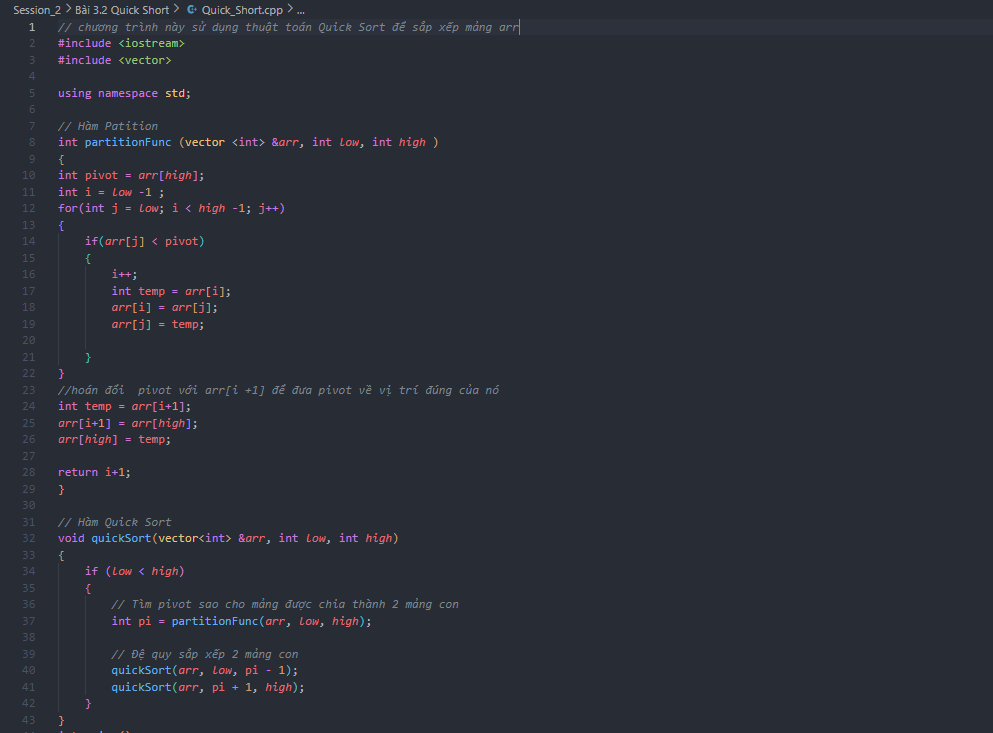
Kết Quả:

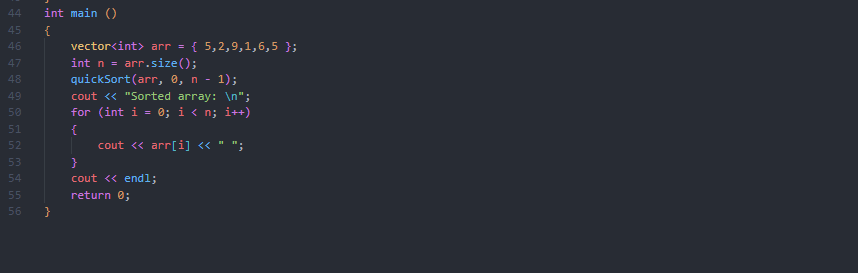


## Bài 3.2: Quick Short

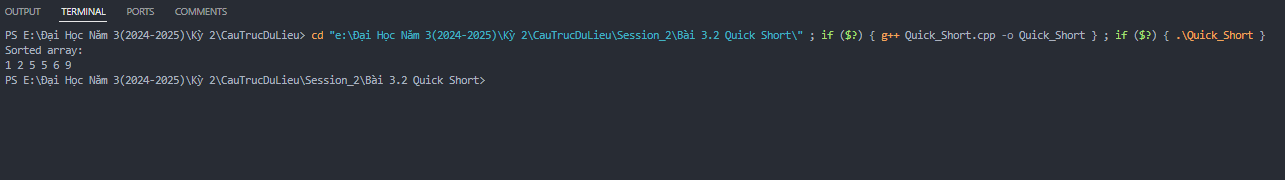
#### a. Quick Short (C++)

Code:

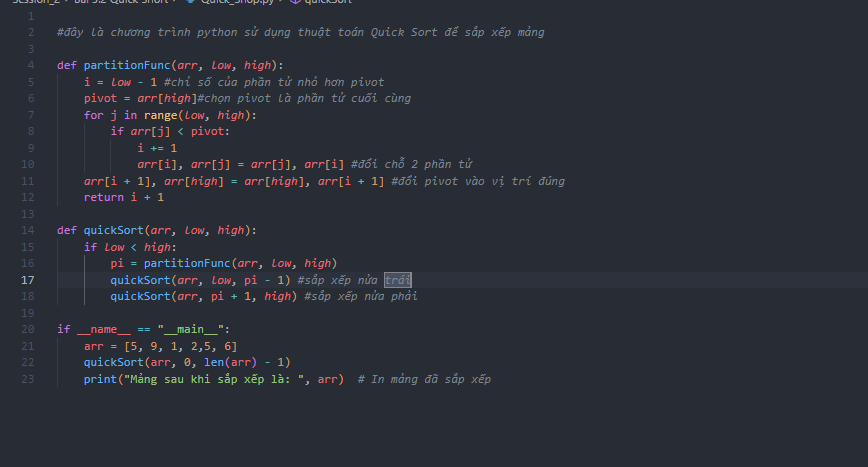




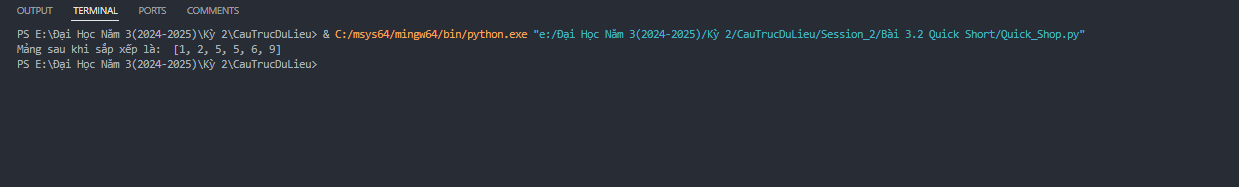
Kết Quả:



#### b. Quick Short (Python)

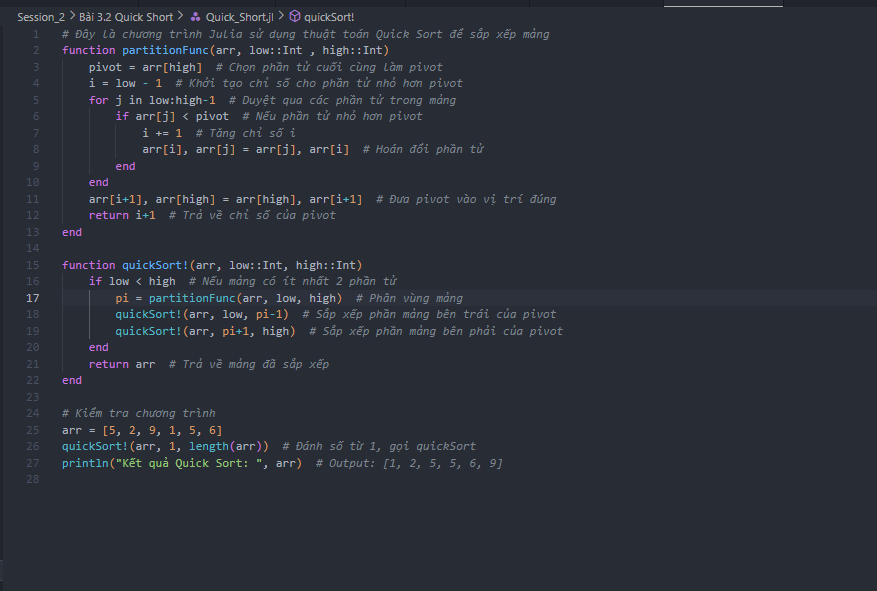
Code:  


Kết Quả:

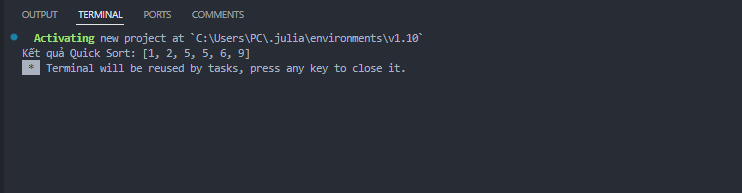


#### c. Quick Short (Julia)

Code:



Kết Quả:

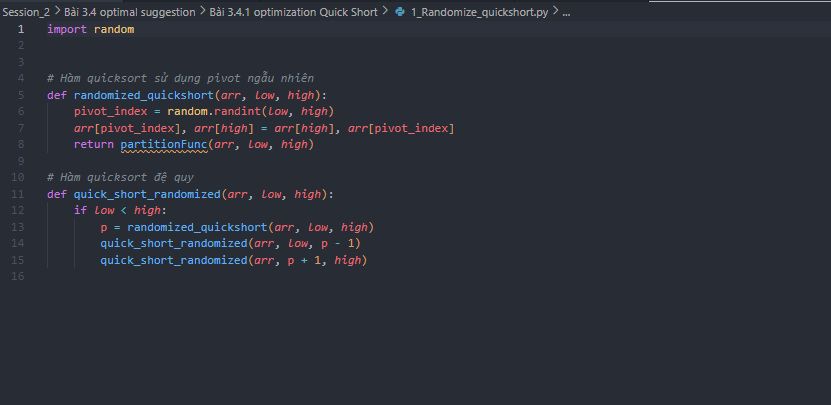


## Bài 3.4: Optimazation Suggestion

### I.Optimazation Quick Short

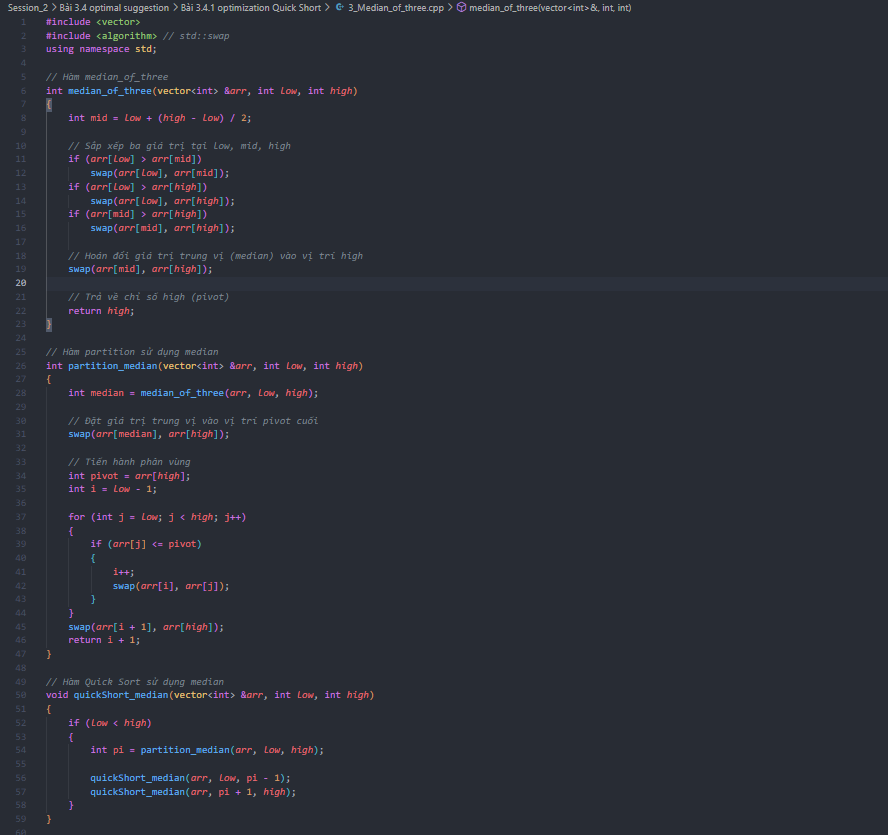
#### a. Randomiz Quick Short (Python)

Code:



#### b. Median Of Three (C++)

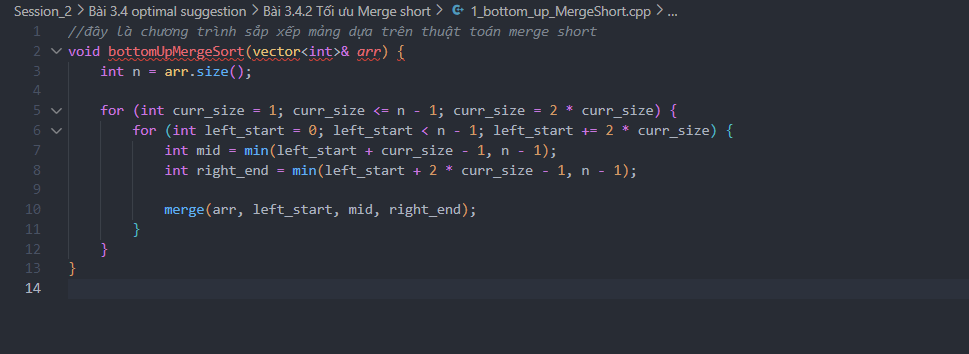
Code:



### II.Optimazation Merge Short

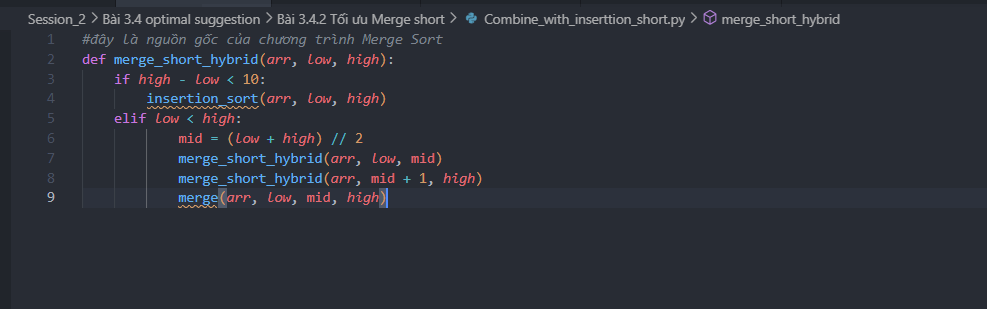
#### a. Bottom up Merge Short

Code:



#### b. Combine With Insertion Short

Code:



# LINK GITHUB: