Algorithms and structures programming

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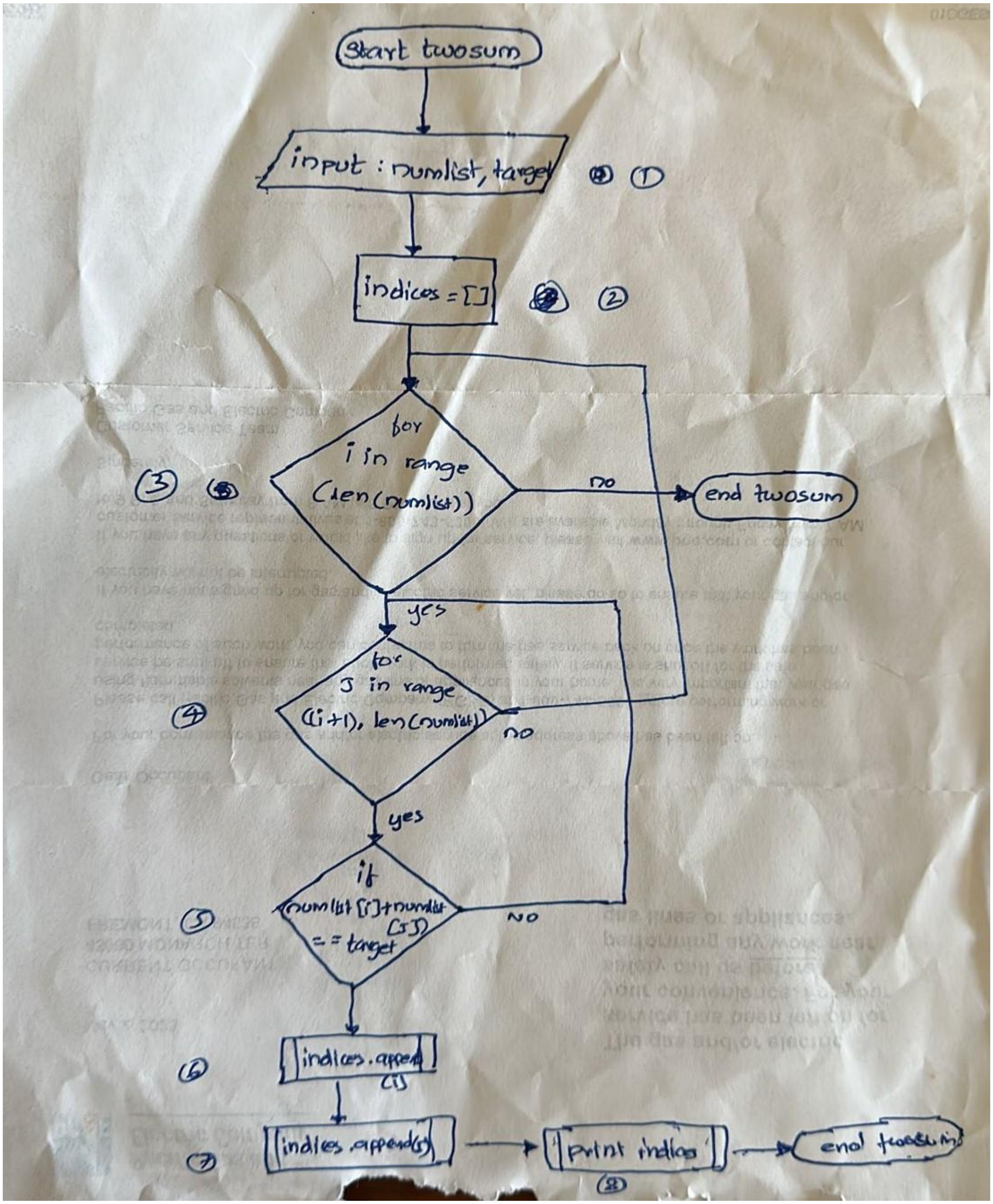
Python program:

```
def twosum(numlist: list, target: int):
    indices = []
    for i in range(len(numlist)):
        for j in range(i+1, len(numlist)):
            if numlist[i] + numlist[j] == target:
                indices.append(i)
                indices.append(j)
                print(indices)
                return indices  # Return the indices as soon as they're found
    print("Match not found")  # If no match was found, print a message
    return indices  # Return an empty list if no match was found

twosum([2,7,11,15])
```

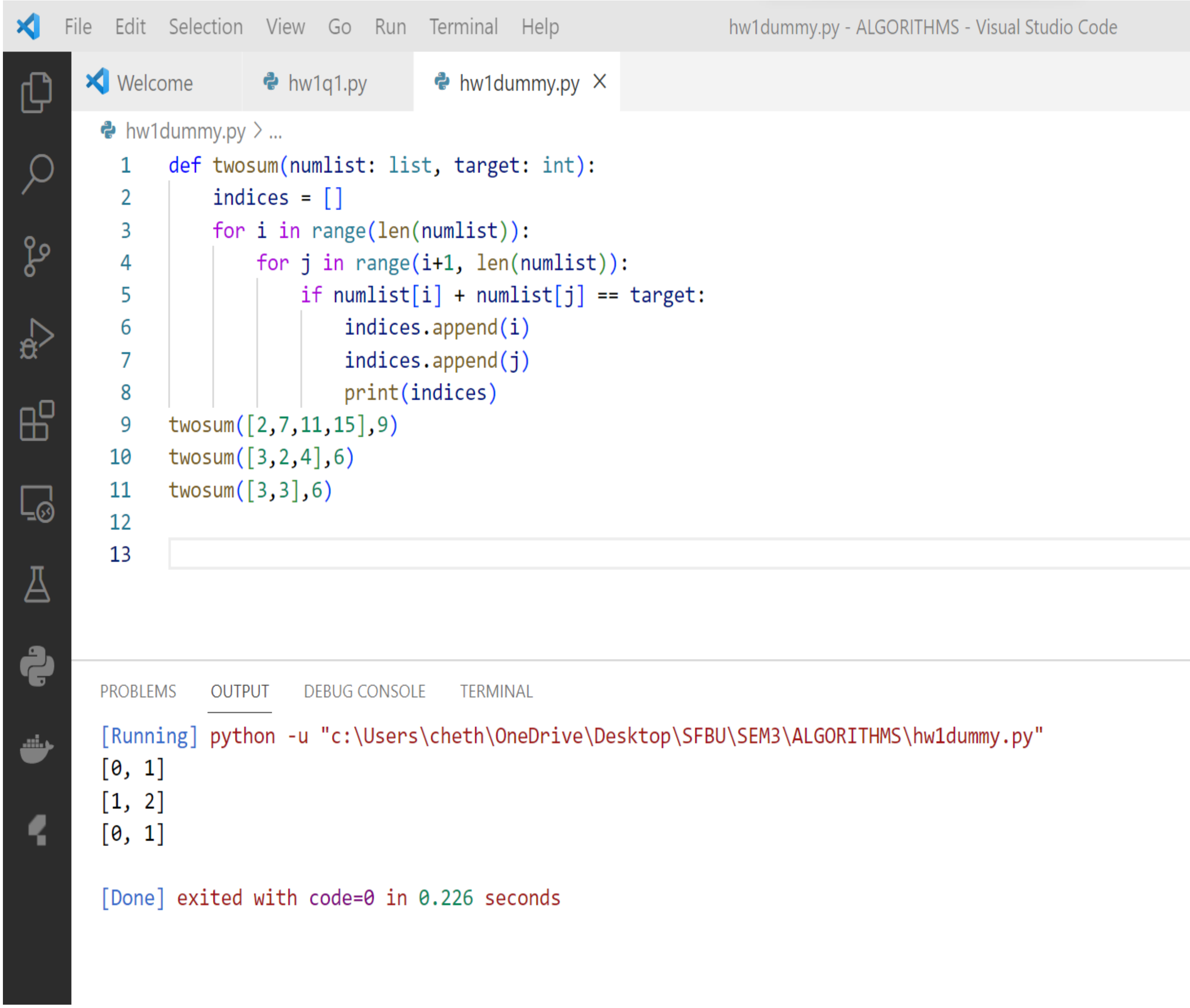
Flowchart:-


Start twosum
input : numlist, target
①
indices = []
②
③
for
i in range
(len(numlist))
no
end twosum
yes
for
j in range
((i+1), len(numlist))
④
no
yes
if
numlist[i]+numlist
[j]
== target
⑤
NO
indices.append
(i)
⑥
indices.append(j)
⑦
print indices
⑧
end twosum

Trace table-:

step	numlist	target	indices	i	j	numlist[i]+numlist[j]=target	screen
1	[2,7,11,15]	9					
2			[]				
3				0			
4					1		
5						True	
6			[0]				
7			[0,1]				
8							[0,1]

Testing:-



```
def twosum(numlist: list, target: int):
    indices = []
    for i in range(len(numlist)):
        for j in range(i+1, len(numlist)):
            if numlist[i] + numlist[j] == target:
                indices.append(i)
                indices.append(j)
                print(indices)
twosum([2,7,11,15],9)
twosum([3,2,4],6)
twosum([3,3],6)
```

```
[Running] python -u "c:\Users\cheth\OneDrive\Desktop\SFBU\SEM3\ALGORITHMS\hw1dummy.py"
[0, 1]
[1, 2]
[0, 1]

[Done] exited with code=0 in 0.226 seconds
```