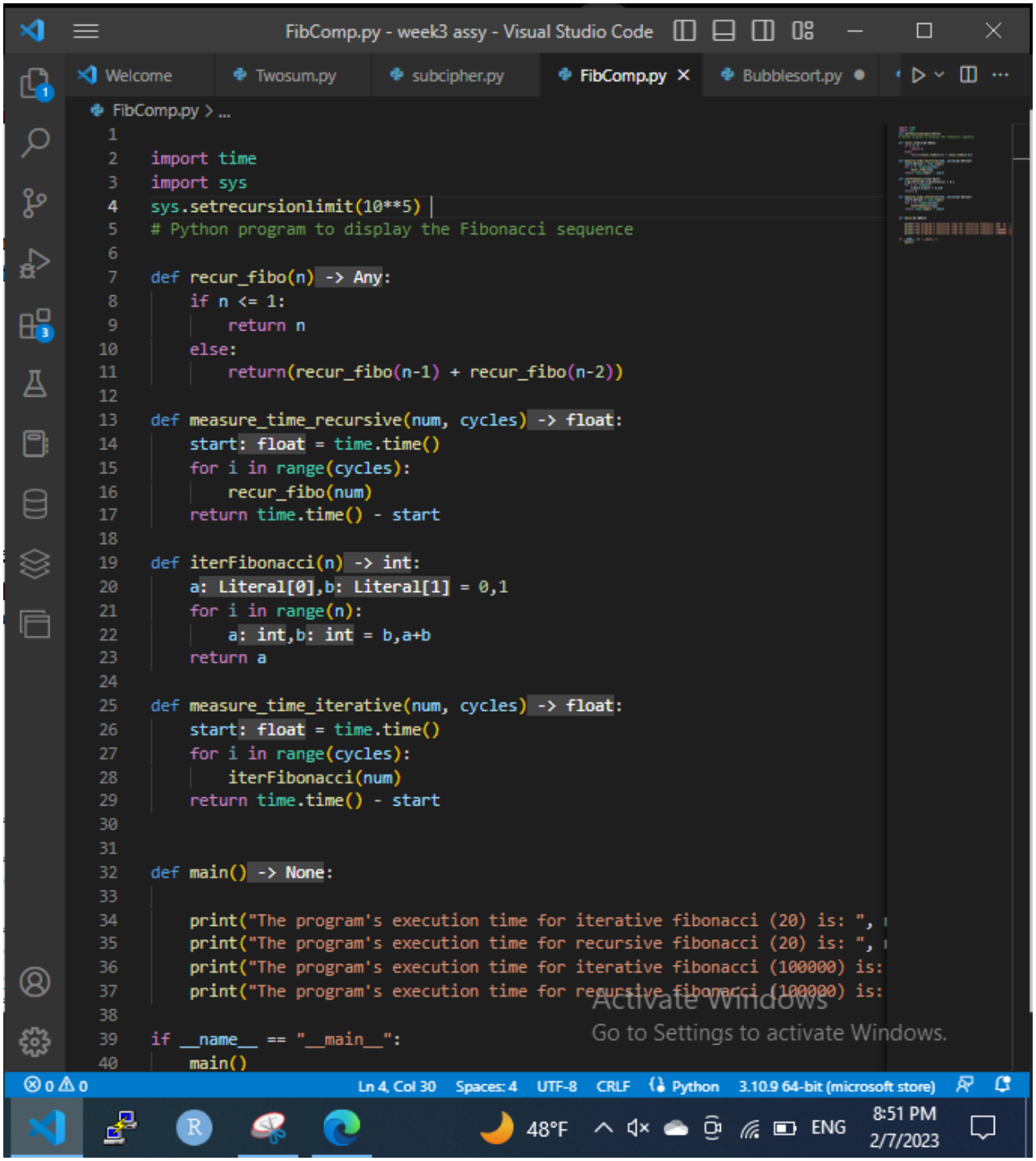
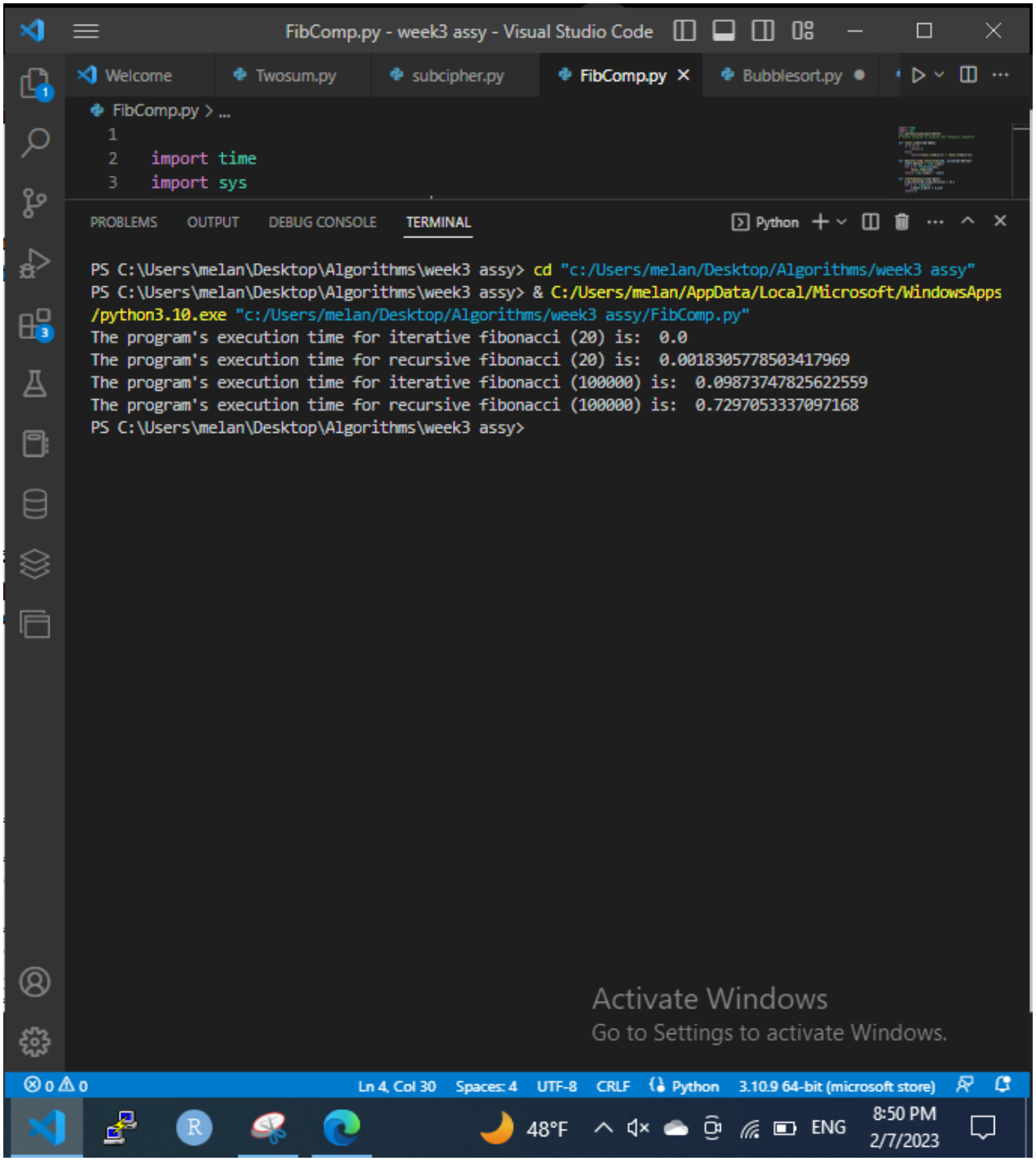

FibComp.py - week3 assy - Visual Studio Code
Welcome
Twosum.py
subcipher.py
FibComp.py
Bubblesort.py
FibComp.py > ...
import time
import sys
sys.setrecursionlimit(10**5)
# Python program to display the Fibonacci sequence
def recur_fibo(n) -> Any:
if n <= 1:
return n
else:
return(recur_fibo(n-1) + recur_fibo(n-2))
def measure_time_recursive(num, cycles) -> float:
start: float = time.time()
for i in range(cycles):
recur_fibo(num)
return time.time() - start
def iterFibonacci(n) -> int:
a: Literal[0],b: Literal[1] = 0,1
for i in range(n):
a: int,b: int = b,a+b
return a
def measure_time_iterative(num, cycles) -> float:
start: float = time.time()
for i in range(cycles):
iterFibonacci(num)
return time.time() - start
def main() -> None:
print("The program's execution time for iterative fibonacci (20) is: ",
print("The program's execution time for recursive fibonacci (20) is: ",
print("The program's execution time for iterative fibonacci (100000) is:
print("The program's execution time for recursive fibonacci (100000) is:
if __name__ == "__main__":
main()
Activate Windows
Go to Settings to activate Windows.
Ln 4, Col 30
Spaces: 4
UTF-8
CRLF
Python
3.10.9 64-bit (microsoft store)
48°F
ENG
8:51 PM
2/7/2023


FibComp.py - week3 assy - Visual Studio Code
Welcome
Twosum.py
subcipher.py
FibComp.py
Bubblesort.py
FibComp.py > ...
1
2 import time
3 import sys
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
Python
PS C:\Users\melan\Desktop\Algorithms\week3 assy> cd "c:/Users/melan/Desktop/Algorithms/week3 assy"
PS C:\Users\melan\Desktop\Algorithms\week3 assy> & C:/Users/melan/AppData/Local/Microsoft/WindowsApps/python3.10.exe "c:/Users/melan/Desktop/Algorithms/week3 assy/FibComp.py"
The program's execution time for iterative fibonacci (20) is: 0.0
The program's execution time for recursive fibonacci (20) is: 0.0018305778503417969
The program's execution time for iterative fibonacci (100000) is: 0.09873747825622559
The program's execution time for recursive fibonacci (100000) is: 0.7297053337097168
PS C:\Users\melan\Desktop\Algorithms\week3 assy>
Activate Windows
Go to Settings to activate Windows.
Ln 4, Col 30
Spaces: 4
UTF-8
CRLF
Python
3.10.9 64-bit (microsoft store)
48°F
ENG
8:50 PM
2/7/2023

CODE

```
import time
import sys
sys.setrecursionlimit(10**5)
# Python program to display the Fibonacci sequence

def recur_fibo(n):
   if n <= 1:
      return n
   else:
      return(recur_fibo(n-1) + recur_fibo(n-2))

def measure_time_recursive(num, cycles):
   start = time.time()
   for i in range(cycles):
      recur_fibo(num)
   return time.time() - start

def iterFibonacci(n):
   a,b = 0,1
   for i in range(n):
      a,b = b,a+b
   return a

def measure_time_iterative(num, cycles):
   start = time.time()
   for i in range(cycles):
      iterFibonacci(num)
   return time.time() - start


def main():

   print("The program's execution time for iterative fibonacci (20) is: ",
measure_time_iterative(7, 20))
   print("The program's execution time for recursive fibonacci (20) is: ",
measure_time_recursive(7, 20))
   print("The program's execution time for iterative fibonacci (100000) is: ",
measure_time_iterative(7, 100000))
   print("The program's execution time for recursive fibonacci (100000) is: ",
measure_time_recursive(7, 100000))
```

```
if __name__ == "__main__":
    main()
```