Tool & Technique Laboratory (T&T Lab.)
[CS-3096]
Individual Work
Lab. No:1 , Date: 17-01-2023 , Day:TUESDAY
Topic:

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Program No: (6.1)

Program Title:

(Write here your program title in detail)

 # 1). Define a class complex with required attributes and member functions. and two complex number and display the result

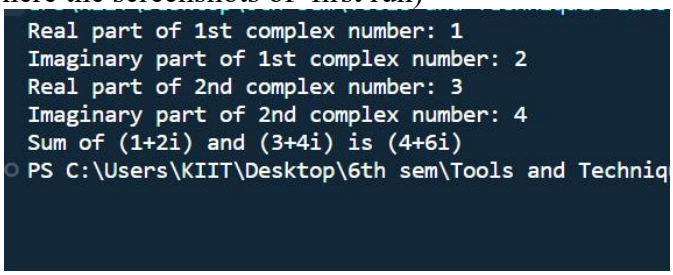
 # ex :-

enter the complex matrix 1: 2+3j
enter the complex matrix 2: 4+5j
---
complex after addition : 6+8j

Input/Output Screenshots:

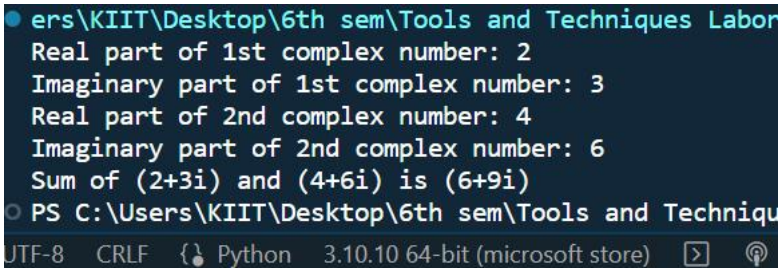
RUN-1:

(Paste here the screenshots of first run)



RUN-2

(Paste here the screenshots of second run)



Source code
(Paste here the source code)

```
class complex:
    def __init__(self, real, imag): # constructor __init__ is used to initialize the attributes of the class
        self.real = real
        self.imag = imag
    def __add__(self, other): # __add__ is used to add two complex numbers
        return complex(self.real+other.real, self.imag+other.imag)
    def __str__(self): # __str__ is used to print the complex number in the form of (a+bi)
        return "({}+{}i)".format(self.real, self.imag)
c1 = complex(int(input('Real part of 1st complex number: ')), int(input('Imaginary part of 1st complex number: ')))
c2 = complex(int(input('Real part of 2nd complex number: ')), int(input('Imaginary part of 2nd complex number: ')))
c3 = c1+c2
print(f'Sum of {c1} and {c2} is {c3}')
```

Conclusion :

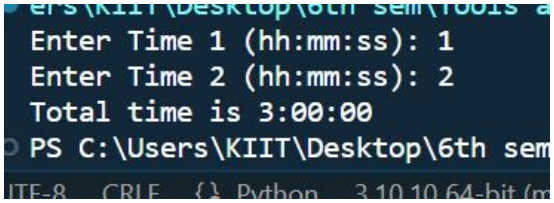
Successfully compile a class complex with required attributes and member functions. and two complex number and display the result

Program No: (6.2)

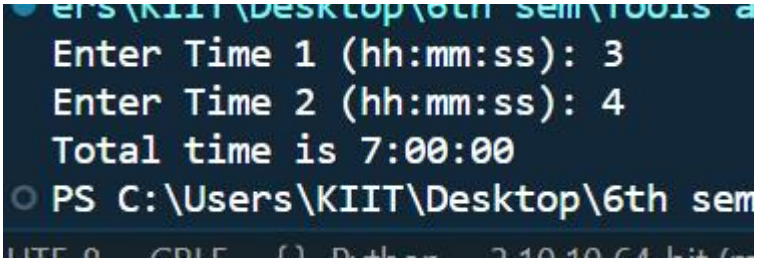
Program Title:
(Write here your program title in detail)
2.) Using class in python add two times and display the result.

ex :- Enter Time 1: 2:30:45
Enter time 3:45:22
----
total time is 6:15:07

Input/Output Screenshots:
RUN-1:
(Paste here the screenshots of first run)



Input/Output Screenshots:
RUN-2:
(Paste here the screenshots of first run)



Source code :

```
class Time:
    def __init__(self, hours=0, minutes=0, seconds=0): # __init is used to initialize the attributes of the class
        self.hours = hours
        self.minutes = minutes
        self.seconds = seconds

    def add(self, other):
        total_seconds = self.seconds + other.seconds # self.seconds and other.seconds are the attributes of the class # use of self
is to access the attributes of the class
        carry_minutes, new_seconds = divmod(total_seconds, 60)

        total_minutes = self.minutes + other.minutes + carry_minutes
        carry_hours, new_minutes = divmod(total_minutes, 60)

        total_hours = self.hours + other.hours + carry_hours

        return Time(total_hours, new_minutes, new_seconds)

    def __str__(self):
        return f"{self.hours}:{self.minutes:02}:{self.seconds:02}"
# Prompt user for input
time1_str = input("Enter Time 1 (hh:mm:ss): ")
time2_str = input("Enter Time 2 (hh:mm:ss): ")
# Parse input strings into Time objects
time1 = Time(*map(int, time1_str.split(":")))
time2 = Time(*map(int, time2_str.split(":")))
# Add the two times
total_time = time1.add(time2)
# Display the result
print(f"Total time is {total_time}")
```

Conclusion :

Successfully compile Using class in python add two times and display the result.