**Multitreading in python**

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BS2230

**Introduction :-**

Multi threading in the python is achieved by the threading module. This module is used when we need to perform independent computations concurrently.  
In this example we used two threads to compute the square and cube of a number at the same time.  
  
**Code explanation :-**

The program defines two functions that are print\_square(num) that computes the square of the given number and prints result. The second one that is print\_cube(num) computes the cube of the given number and prints the result.  
Two threads are created and started each targeting one of the functions. The program ensures both threads complete before printing “Done!” using the join() method.

**Code working :-**

Thread Creation:

* Two threads (t1 and t2) are created using threading.Thread().
* Each thread is associated with a specific function (print\_square and print\_cube) and its argument (10).
* Thread Execution:
* The start() method is called on both threads to begin their execution concurrently.
* Thread Synchronization:
* The join() method ensures that the main program waits until both threads complete execution before proceeding.
* Output:
* The square and cube are calculated and printed, followed by "Done!" to indicate program completion.

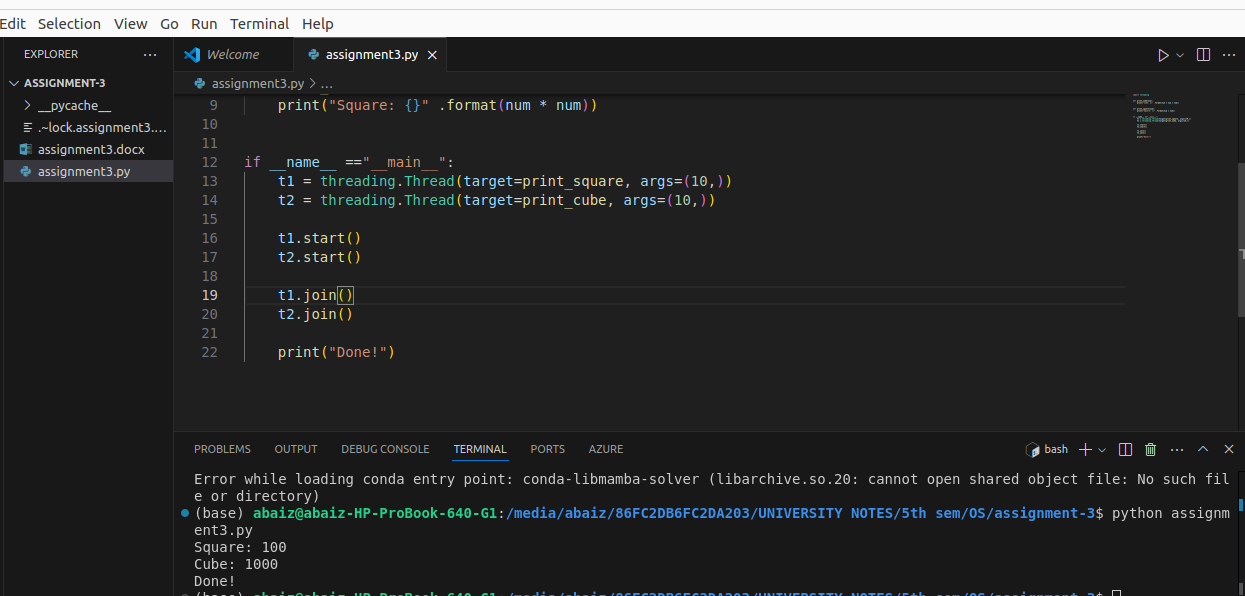
#### **Advantages of Multithreading**

1. Concurrency: Tasks are executed concurrently, making better use of CPU resources.
2. Efficiency: Multithreading can improve the responsiveness of a program.
3. Separation of Tasks: Independent tasks like square and cube computations can run simultaneously.

#### **Applications**

1. Performing parallel computations for independent tasks.
2. Improving responsiveness in GUI or network applications.
3. Handling I/O operations while continuing other computations.

**Related screen shots :-**

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