# Problem 2: Threads synchronization and communication

A1 = 500 \* (500 + 1)/2 = 125250  
B1 = 250 \* (250 + 1)/2 = 31375  
B2 = A1 + [200 \* (200 + 1)/2] = 145350  
A2 = B2 + [300 \* (300 + 1)/2] = 190500  
B3 = A2 + [400 \* (400 + 1)/2] = 270700  
A3 = B3 + [400 \* (400 + 1)/2] = 350900

In the code, join() are used for both threads to allow them to wait for each other to execute. This is used within the for loop, as given:

A screen shot of a computer program

Description automatically generated

In the code of the threads themselves, a while(goFun\_\_ == false) block is used to allow the synchronized portion of the thread to thread.wait() for a notification from the other thread, as given:

A computer screen shot of a program code

Description automatically generated

This avoids using thread.sleep().

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Description automatically generatedThe resulting code, when done in 5 iterations to verify how correct the implementation is, gives the following results:

In all of the iterations, all values match the calculated values in the correct orders.