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| Simple | **2017** |

**Assignment 1: Multithreaded application**

**Objective: Understand how to create threads in Java**

**Description**

Write a program to create **x** threads. Create a shared integer counter. Each thread should increment the shared counter **y** times. After all the threads have finished, print the final value of the counter. If the initial value is zero, do you always get **x\*y**? Handle exceptions end to end.

**Assignment 2: Thread synchronization**

**Objective: Make data thread safe**

**Description**

In assignment 1, you noticed that the final value of shared counter may be different than the total number of iterations. Modify your code so that if program is run, always the final value of shared counter will be correct. Handle exceptions end to end.