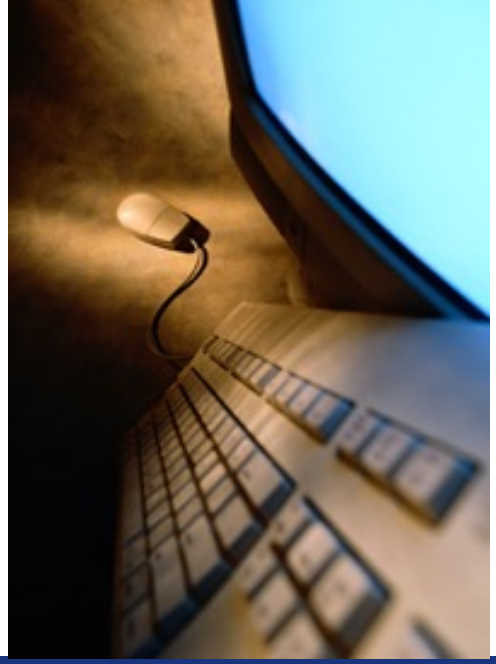
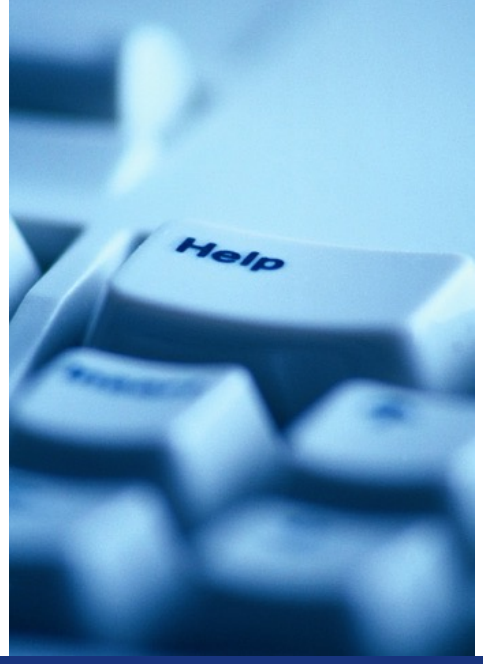


# 并行与分布式计算

## Parallel & Distributed Computing

陈鹏飞
计算机学院

## Homework-5

1. Consider a simple loop that calls a function `dummy` containing a programmable delay ( sleep ) . All invocations of the function are independent of the others. Partition this loop across four threads using `static`, `dynamic`, and `guided` scheduling. Use different parameters for static and guided scheduling. Document the result of this experiment as the delay within the `dummy` function becomes large.

2. Implement a producer-consumer framework in OpenMP using sections to create a single producer task and a single consumer task. Ensure appropriate synchronization using locks. Test your program for a varying number of producers and consumers.

# Homework-5

3. Consider a sparse matrix stored in the compressed row format (you may find a description of this format on the web or any suitable text on sparse linear algebra). Write an OpenMP program for computing the product of this matrix with a vector. Download sample matrices from the Matrix Market (http://math.nist.gov/MatrixMarket/) and test the performance of your implementation as a function of matrix size and number of threads.


*A visual repository of test data for use in comparative studies of algorithms for numerical linear algebra, featuring nearly 500 sparse matrices from a variety of applications, as well as matrix generation tools and services.*

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# Thank You !