

TUTORIAL # 4 – Threads
SPRING - 2010

Question # 1:

Describe the actions taken by a thread library to context switch between user-level threads.

Question # 2:

Under what circumstances does a multithreaded solution using multiple kernel threads provide better performance than a single-threaded solution on a single-processor system?

Question # 3:

Consider a multiprocessor system and a multithreaded program written using the many-to-many threading model. Let the number of user-level threads in the program be greater than the number of processors in the system. Discuss the performance implications of the following scenarios.

- a) The number of kernel threads allocated to the program is less than the number of processors.
- b) The number of kernel threads allocated to the program is equal to the number of processors.
- c) The number of kernel threads allocated to the program is greater than the number of processors but less than the number of user level threads.