

UM-SJTU JOINT INSTITUTE  
VE482 Introduction to Operating Systems

Homework 3

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## Ex.1 General questions

1. Actually, so-called “voluntarily” is controlled by the programmers. Programmers make a thread release the CPU when it is unnecessary.
2.
  - Advantage: Efficiency
  - Disadvantage: The block of one thread will cause all threads blocking.
3. No.
4. These system calls will be rewritten to Win32 API or other codes implementing same functions.

## Ex.2 C programming

## Ex.3 Research on POSIX

POSIX stands for “Portable Operating System Interface” and defines a set of standards to provide compatibility between different computing platforms. The current version of the standard is IEEE 1003.1 2016 and can be accessed from the OpenGroup POSIX specification. POSIX defines various tools interfaces, commands and APIs for UNIX-like operating systems and others.

The need for standardization arose because enterprises using computers wanted to be able to develop programs that could be moved among different manufacturer’s computer systems without having to be recoded.

The following are considered to be within the scope of POSIX standardization:

- System interface (functions, macros and external variables)
- Command interpreter, or Shell (the `sh` utility)
- Utilities (such as `more`, `cat`, `ls`)