Multithread

Windows programming

Process vs Thread

❑ **A process consists**
- many threads, code, data & other resources

❑ **A thread: a path of execution through a program**
- Smallest unit of execution
- Stack, state of CPU registers
- Each thread shrare all the process's resources

CreateThread

❑ HANDLE thread = **CreateThread**(NULL, 0, **ThreadFunc**, new ThreadData(i), 0, 0);

❑ DWORD WINAPI ThreadFunc2(LPVOID lpParameter)

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Simple thread synchronization

HANDLE hMutex = **CreateMutex**(0, FALSE, mutexName);

WaitForSingleObject(hMutex, TIMEOUT);

// ....

ReleaseMutex(hMutex); // Ra khỏi miền găng

Multiple threads

HANDLE threads[TOTAL];

...

WaitForMultipleObjects(TOTAL, threads, TRUE, TIMEOUT);

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Semaphore

- ❑ CreateSemphore
- ❑ ReleaseSemaphore

Suspend & resume

❑ SuspendThread

❑ ResumeThread

❑ ExitThread