OS Home Assignment-1

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3rd February 2015

1) Output of code 1:

   Parent sees i = 0
   Child sees i = 0
   Parent sees i = 1
   Child sees i = 1
   Parent sees i = 2
   Child sees i = 2

2) Output of code 1:

   os@ubuntu:~/Desktop/os$ cc ha1.c -pthread
   os@ubuntu:~/Desktop/os$ ./a.out
   Parent says a: 1
   id: 1 a: 2 b: 1
   id: 2 a: 3 b: 1
   Thread 1 and 2 complete

3) M:N maps some M number of application threads onto some N number of kernel entities, or "virtual processors." This is a compromise between kernel-level ("1:1") and user-level ("N:1") threading. In general, "M:N" threading systems are more complex to implement than either kernel or user threads, because changes to both kernel and user-space code are required.

   In the M:N implementation, the threading library is responsible for scheduling user threads on the available schedulable entities; this makes context switching of threads very fast, as it avoids system calls.

4) m>n is the best option as more user level threads as compared to kernel level threads are an efficient alternative.