**OS HOME ASSIGNMENT 1**

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1. The output is as follows:

Parent sees i = 0

Parent sees i = 1

Parent sees i = 2

Child sees i = 0

Child sees i = 1

Child sees i = 2

Hence the parent process will be executed first.

1. Parent says a: 1  
   id: 2 a: 2 b: 1  
   id: 1 a: 3 b: 1
2. (1) User-level threads are unknown by the kernel, whereas the kernel is aware of kernel threads. (2) On systems using either M: 1 or M: N mapping, user threads are scheduled by the thread library and the kernel schedules kernel threads. (3) Kernel threads need not be associated with a process whereas every user thread belongs to a process. Kernel threads are generally more expensive to maintain than user threads as they must be represented with a kernel data structure.
3. m>n is the best possible solution.