1. Name 3 Process management services the OS is responsible for?
2. What is the difference between program and process?
3. Name 4 parts of the process in the memory? What are they used for?
4. Identify if the following state transition is possible and name one example that may cause the transition if any.
   1. Ready to waiting
   2. Waiting to ready
   3. Running to ready
   4. Waiting to running
   5. Ready to running
5. What is PCB? Name three items stored in PCB?
6. Why we need to allow a process to have multiple threads? How many programs counter there will be?
7. Name three scheduling queues?
8. What is the difference between short term scheduler and long term scheduler?
9. What is the difference between IO bound process and CPU bound process?
10. Explain when swapping may be necessary?
11. What is context switch?
12. How can the context switch time overhead be reduced?
13. What are the options for resource sharing between parent and child processes?
14. What are the options for execution between parent and child processes?
15. What is fork? What is exec?
16. Why may parent process terminate the execution of its child processes? How?
17. What are the options for process termination?
18. What is the difference between zombie and orphan processes?
19. What are the reasons for having cooperating processes?
20. What solution is used for producer-consumer in the slides? Why we have one element unused?
21. When message passing is useful?
22. Fixed-size vs. variable length message when message passing is used for IPC?