

1. Differentiate between an abstract resource and a physical resource. Give two examples of each.

5. Identify which of the following are example of space multiplexed sharing, and which are time multiplexed sharing. If there is a sense that it could be either strategy, explain.

- a. The land in a residential subdivision
- b. A personal computer
- c. A whiteboard in a classroom
- d. A bench seat on a bus
- e. A single-user file in UNIX
- f. A printer on a timesharing system
- g. The heap in the C/C++ runtime system

7. Suppose that a multi-programmed system has a load of N processes with individual total execution times of t_1, t_2, \dots, t_N . How would it be possible that the execution time could be as small as $\max(t_1, t_2, \dots, t_N)$?

8. Suppose that a multi-programmed system has a load of N processes with individual total execution times of t_1, t_2, \dots, t_N . How would it be possible that $T > t_1 + t_2 + \dots + t_N$? That is, what could cause the total execution time to exceed the sum of the individual process execution times?

9. when is batch processing the preferred strategy for work to be done by the computer? When is timesharing the preferred strategy?