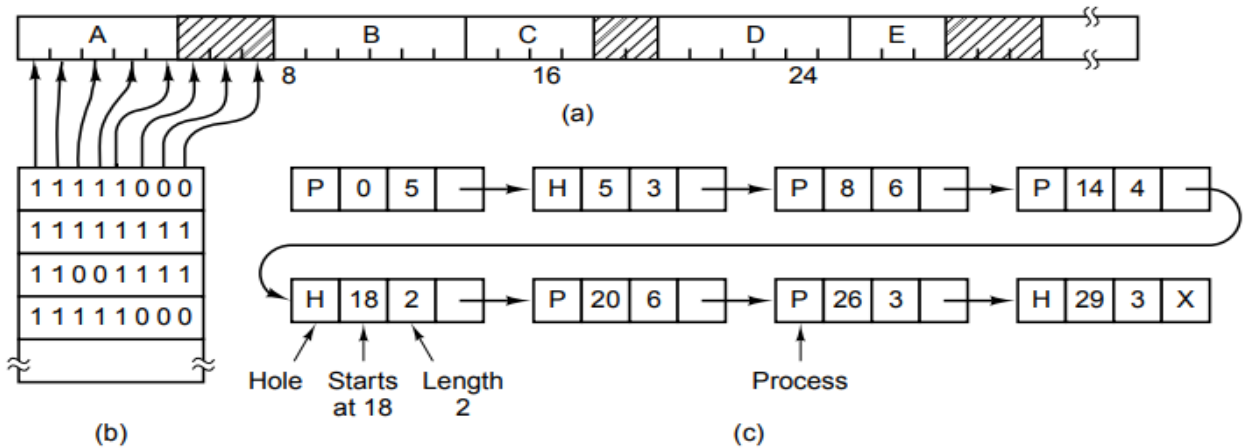# PW2: Memory management by dynamic partitioning: Bit map (Session 1)

We consider a memory allocation based on dynamic multiple partitions. The number of partitions (free and allocated) in this case is not constant. To maintain the state of the memory, there are several methods; the chosen method is to use the bit map (see the following figure).

The requested work is to simulate the operation of this mode of memory management using dynamic multiple partitions, while ensuring:

Session 1:
- Creation of a queue of programs waiting to be loaded, where each program is defined by: name, size and estimated execution time.
- Definition of the allocation unit and the size of the main memory.
- Calculate the number of units in each program and in the main memory.
- Creating of the bit map (linked list) according to the principle of the figure above.
- The search for a free zone for a waiting program is done according to the algorithm: Best Fit.
- Display the updated bit map of each state of the memory (as mentioned in the figure above (b): sequence of 0 for free partition and 1 for occupied one).

__Good luck__