HW4

1. Ans

For 8-ary 2-cube, 64 entries are needed for one node.

If CAM is applied, at least 7 entries; for node 34(011 100), i.e.

011 100 this node

1XX XXX above

010 XXX the line just below

00X XXX all other below

011 0XX on the west

011 1X1 on the east

011 11X on the east

1. Ans

For a flit size of Lf and V virtual channels, a downstream buffer has a size of Lf/V;

Thus, the total credit overhead is L\*V/Lf

1. Ans

For each two-abstract-cycle-combination of 8 turns, at least one turn must be eliminated;

Thus, for k-ary n-mesh routing, at least turns must be eliminated.

1. Ans

For the first stage,

For the second stage,

Thus, the average is