Q1: Given 8 jobs with the following (v, s, f)-values (v=value, s= start time, and f= finish times): a=(3.5,0,6), b=(2,1,4), c=(3,3,5), d=(3,3,8), e=(6.5,4,7), f=(2.5,5,9), g=(12,6,10), h=(8,8,11).

Find a set of mutually compatible jobs with the maximal total value.

Sort by finish time: b=(2, 1, 4), c=(3, 3, 5), a=(3.5, 0, 6), e=(6.5, 4, 7), d=(3, 3, 8), f=(2.5, 5, 9), g=(12, 6, 10), h=(8, 8, 11)

Compute p array: p[b]=0, p[c]=0, p[a]=0, p[e]=b, p[d]=0, p[f]=c, p[g]=a, p[h]=d

State transition equation: M[j] = max { vj+M[p[j]], M[j-1]}

M[b]=max{vb+M[0], M[0]}=max{2+0, 0}=2

M[c]=max{vc+M[0], M[b]}=max{3+0, 2}=3

M[a]=max{va+M[0], M[c]}=max{3.5+0, 3}=3.5

M[e]=max{ve+M[b], M[a]}=max{6.5+2, 3.5}=8.5

M[d]=max{vd+M[0], M[e]}=max{3+0, 8.5}=8.5

M[f]=max{vf+M[c], M[d]}=max{2.5+3, 8.5}=8.5

M[g]=max{vg+M[a], M[f]}=max{12+3.5, 8.5}=15.5

M[h]=max{vh+M[d], M[g]}=max{8+8.5, 15.5}=16.5

Thus, select jobs {h, e, b} with the maximal total value 16.5.