Memoized\_Matrix\_chain(p)

n <- length[p] - 1

FOR i <- 1 to n

DO FOR j <- i to n

DO m[i, j] <- infinity

RETURN Lookup\_Chain(p, 1, n)

Lookup\_Chain(p, i, j)

IF m[i, j] < infinity

THEN RETURN m[i, j]

IF i=j

THEN m[i, j] <- 0

ELSE FOR k <- i to j-1

DO q <- Lookup\_Chain(p, i, k) + Lookup\_Chain(p, k+1, j) +

IF q < m[i, j]

THEN m[i, j] <- q

RETURN m[i, j]