OPTIMAL-BST(p, q, n)

```
1   let e[1:n+1, 0:n], w[1:n+1, 0:n],
            and root[1:n, 1:n] be new tables
2   for i = 1 to n + 1                          // base cases
3       e[i, i − 1] = q_{i−1}                    // equation (14.14)
4       w[i, i − 1] = q_{i−1}
5   for l = 1 to n
6       for i = 1 to n − l + 1
7           j = i + l − 1
8           e[i, j] = ∞
9           w[i, j] = w[i, j − 1] + p_j + q_j    // equation (14.15)
10          for r = i to j                        // try all possible roots r
11              t = e[i, r − 1] + e[r + 1, j] + w[i, j]  // equation (14.14)
12              if t < e[i, j]                    // new minimum?
13                  e[i, j] = t
14                  root[i, j] = r
15  return e and root
```