MEMOIZED-CUT-ROD(p, n)

1 let $r[0:n]$ be a new array   **//** will remember solution values in r
2 **for** $i = 0$ **to** n
3      $r[i] = -\infty$
4 **return** MEMOIZED-CUT-ROD-AUX(p, n, r)

MEMOIZED-CUT-ROD-AUX(p, n, r)

1 **if** $r[n] \geq 0$ **//** already have a solution for length n?
2   **return** $r[n]$
3 **if** $n == 0$
4      $q = 0$
5 **else** $q = -\infty$
6   **for** $i = 1$ **to** n **//** i is the position of the first cut
7          $q = \max \{q, p[i] + \text{MEMOIZED-CUT-ROD-AUX}(p, n - i, r)\}$
8 $r[n] = q$ **//** remember the solution value for length n
9 **return** q

BOTTOM-UP-CUT-ROD(p, n)

1 let $r[0:n]$ be a new array   **//** will remember solution values in r
2 $r[0] = 0$
3 **for** $j = 1$ **to** n **//** for increasing rod length j
4      $q = -\infty$
5   **for** $i = 1$ **to** j **//** i is the position of the first cut
6          $q = \max \{q, p[i] + r[j - i]\}$
7      $r[j] = q$ **//** remember the solution value for length j
8 **return** $r[n]$