

$$B[i][j] = \begin{cases} 0 & \text{if } j = 0 \text{ and } W[0] > i \\ V[0] & \text{if } j = 0 \text{ and } W[0] \leq i \\ B[i][j - 1] & \text{if } W[j] > i \\ \max\{V[j] + B[i - W[j]][j - 1], \\ B[i][j - 1]\} & \text{otherwise} \end{cases}$$

| | | | | | | | |
|---|------|------|------|------|-------|-------|-------|
| 3 | 20/S | 20/S | 20/S | 90/S | 110/S | 120/T | 125/S |
| 2 | 20/S | 20/S | 20/S | 90/T | 110/T | 110/T | 125/T |
| 1 | 20/S | 20/S | 35/T | 35/T | 35/T | 35/T | 35/T |
| 0 | 20/T | 20/T | 20/T | 20/T | 20/T | 20/T | 20/T |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

$$L[i][j] = \begin{cases} 0 & \text{if } (i = 0 \text{ or } j = 0) \text{ and } a[i] \neq b[j] \\ 1 & \text{if } (i = 0 \text{ or } j = 0) \text{ and } a[i] = b[j] \\ 1 + L[i - 1][j - 1] & \text{if } i \neq 0 \text{ and } j \neq 0 \text{ and } a[i] = b[j] \\ \max\{L[i][j - 1], \\ \quad L[i - 1][j]\} & \text{otherwise} \end{cases}$$

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| T | 0 | 0 | 1 | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 5 |
| E | 0 | 0 | 1 | 2 | 2 | 3 | 4 | 4 | 4 | 4 | 4 |
| H | 0 | 0 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 |
| C | 0 | 0 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| T | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
| A | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| R | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | B | L | A | C | K | H | E | I | G | H | T |

$$M[i][j] = \begin{cases} 0 & \text{if } i = j \\ \min_{i \leq k < j} \{ M[i][k] + \\ \quad D[i] \times D[k + 1] \times D[j + 1] + \\ \quad M[k + 1][j] \} & \text{otherwise} \end{cases}$$