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**Algorithm 1** FVFI + Piecewise Linear Interpolation + Grid

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initialize  $v$  (array of size:  $N$ )

initialize  $v'$  (array of size:  $N$ )

initialize  $x_{grid} = (x_i)_{i=1}^N$

**repeat**

**for**  $i = 1$  to  $N$  **do**

$v'(x_i) \leftarrow \max_{c \in \Gamma(x)} \{u(c) + \beta \text{interp}(x_{grid}, v, x - c)\}$

**end for**

    set  $e = d_\infty(v, v')$

    set  $v = v'$

**until**  $e$  is less than some tolerance

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