Algorithm 1 Value function iteration – standard human capital model.

for $t = T, \ldots, 1$ **do**

  if t == T **then**

    $$v_T^{\pi^*}(s_T) = \max_{a_T \in \mathcal{A}} \left\{ u(s_T, a_T) \right\} \qquad \forall\, s_T \in \mathcal{S}_T$$

  else

    Compute $v_t^{\pi^*}(s_t)$ for each $s_t \in \mathcal{S}_t$ by

    $$v_t^{\pi^*}(s_t) = \max_{a_t \in \mathcal{A}} \left\{ u(s_t, a_t) + \delta\, \mathbb{E}_{p^{\pi^*}} \left[v_{t+1}^{\pi^*}(s_{t+1}) \,\middle|\, s_t \right] \right\}$$

    and set

    $$a_t^{\pi^*}(s_t) = \arg\max_{a_t \in \mathcal{A}} \left\{ u(s_t, a_t) + \delta\, \mathbb{E}_{p^{\pi^*}} \left[v_{t+1}^{\pi^*}(s_{t+1}) \,\middle|\, s_t \right] \right\}.$$

  end if

end for