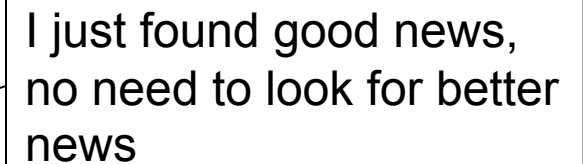


Alpha-beta pruning

```
Function A-B-SEARCH (state)
  (v, a) = max-value(state,  $-\infty$ ,  $+\infty$ )
  return a
```

```
Function MAX-VALUE (state,  $\alpha$ ,  $\beta$ )
  IF terminal(state) THEN return utility(state)
  v =  $-\infty$ 
  FOREACH (a, s) in successors DO
    v = max(v, min-value(s,  $\alpha$ ,  $\beta$ ))
    a = action that corresponds to v
    IF v  $\geq$   $\beta$  THEN return (v, a)
     $\alpha$  = max( $\alpha$ , v)
  return (v, a)
```

I just found good news,
no need to look for better
news



```
Function MIN-VALUE (state)
  IF terminal(state) THEN return utility(state)
  v =  $+\infty$ 
  FOREACH (a, s) in successors DO
    v = min(v, max-value(s,  $\alpha$ ,  $\beta$ ))
    a = actions that corresponds to v
    IF v  $\leq$   $\alpha$  THEN return (v, a)
     $\beta$  = min( $\beta$ , v)
  return (v, a)
```

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